SCHOOL CLIMATE: AN ESSENTIAL COMPONENT OF A COMPREHENSIVE SCHOOL SAFETY PLAN

by

Heidi Stark

Bachelor of Science, United States Military Academy, West Point, 1984

Master of Education, John Carroll University, 1997

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This dissertation was presented

by

Heidi Stark

It was defended on

March 2, 2017

and approved by

Dr. Michael Gunzenhauser, Associate Dean, School of Education

Dr. Mary Margaret Kerr, Professor, Administrative and Policy Studies

Dr. M. Najeeb Shafiq, Associate Professor, Administrative and Policy Studies

Dissertation Advisor: Dr. Cynthia Tananis, Associate Professor, Administrative and Policy Studies

SCHOOL CLIMATE: AN ESSENTIAL COMPONENT OF A COMPREHENSIVE SCHOOL SAFETY PLAN

Heidi Stark, Ed.D.

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The intentional assessment and management of school climate is an essential component of a comprehensive school safety plan. The value of this preventive aspect of school safety is often diminished as schools invest resources in physical security measures as a narrowly focused effort to increase school safety (Addington, 2009). This dissertation used school safety trend data to illustrate that schools in the United States are safe havens, while students and parents continue to report a perception that schools are unsafe. This dissertation is a secondary analysis of data collected by one suburban public school district in that focuses on students' perceptions of physical safety, emotional safety and safety from bullying. The racial demographics in the district of study are primarily White students, but the minority subgroup of Asian students has shown a steady increase over time. The data were collected in May 2016 using the U.S. Department of Education School Climate Survey (EDSCLS). The present study evaluated the perception of safety by all students enrolled in grades six through twelve with a focus on differential perceptions of safety by students in subgroups of race, gender and grade level band. This study sought to determine if an association exists between a student's race, gender and grade level band and their perception physical safety, emotional safety and safety from bullying.

This study informs school leaders as they work to develop a safety plan that is comprehensive and promotes safety.

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1.0 INTRODUCTION

Every child should feel safe and supported in school, but as recently as August 2015 ten percent of parents of children in K-12 schools reported that their child expressed worry about their safety in school (McCarthy, 2015). This fear is not rooted in fact, but instead illustrates a lack of safety in our nation's schools. In fact, our schools are safe havens for children and trend data shows that they have become safer in the past ten years (Zhang, Musu-Gillette, & Oudekerk, 2016). Efforts to improve school safety have primarily focused on visible security improvements in schools (Peterson, Larson, & Skiba, 2001). These measures include the presence of physical devices, such as metal detectors and security cameras, as well as trained personnel, such as school resource officers (Addington, 2009). The investment of time and money to implement these measures was intended to prevent violence and increase school safety. Unfortunately, the efforts to increase school safety have been found to have no effect on the perception of school safety (R. Bachman, Randolph, & Brown, 2011) or to even decrease student reports of feeling safe (Perumean-Chaney & Sutton, 2013; Schreck & Miller, 2008).

Recently school administrators have considered the way school-level factors contribute to student aggressive or violent behavior (Furlong & Morrison, 2000) by evaluating the school climate. Students' perceptions of climate, connectedness, and civility have been found to have the greatest influence on safety, yet surveys frequently have a singular focus on the prevalence of physical violence (Furlong, Skiba, Cornell, & Morrison, 2004). Furthermore, a safe school

environment is significantly correlated with school climate as a predictor of student achievement (Osher & Boccanfuso, 2012). Positive school climate is well established as a factor in preventing violence in schools, yet there is much to be learned about the implementation of effective measures to improve school climate (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). This is due to three challenges. First, there is no agreement on the factors that comprise school climate. Multiple assessments are available to measure of the climate of a school; however these assessments lack construct validity and agreement on a theoretical model (Thapa et al., 2013). Faced with an array of choices on how to respond to calls for increased safety, school leaders who choose to measure school climate must determine which measure will provide valid and reliable information among an array of choices.

Second, school climate assessment itself is only an initial step. School leaders must effectively use this information in a collaborative way to improve the school climate. In order to accomplish this, school leaders must integrate the effort into a universal preventative model and into the culture of the building. The improvement process is a commitment to understand the findings and select an evidence-based approach to address them. It is an impossible task for a leader to create this change without the collective support of the school community. Even with the support of the school community, the process requires time and a dedicated focus. In the current culture of school accountability, positive results are expected quickly. Changing school climate is a process that takes time. Even though a positive school climate improves the safety of the school, school leaders face competing demands to focus on curriculum and instructional strategies to increase student achievement. School safety is frequently addressed through physical security improvements and the climate of the school is not considered worthy of actionable measures that lead to increased safety (Satterly, 2014). Understanding how the

climate affects students of all races is especially relevant for school leaders at this time, because the demographics of race and ethnicity are changing in the United States. The intentional management of school climate is one way that school leaders can create a responsive organization to prevent a social or cultural predominance of students who are of a particular race or ethnicity.

1.1 PURPOSE

The purpose of this research is to understand students' perceptions of emotional safety, physical safety and safety from bullying behavior. This study investigated how the perception of safety relates to student characteristics of race, gender and grade level band. The study is a secondary analysis of school climate data survey data collected in one school district in May 2016.

Research on sources of fear in schools is in its infancy. However, early studies show that individual characteristics are risk factors regarding a perception of safety. Males are consistently less worried about crime, while minority students often tend to have more fear (Schreck & Miller, 2008). Safety is measured by variables such as emotional safety, physical safety and safety from bullying. This study sought to determine if associations exist between safety and student characteristics of race, gender, grade level and grade level band. The study also investigated differences in perceptions of safety among subgroups of race, gender and grade level band. While there has been a focus on safety measures such as zero tolerance, metal detectors, and placing police officers in schools, there has been less attention on determining if students of various races or genders respond to the same school environment differently (Lacoe, 2015). Despite the importance of understanding adolescents' fear of crime, we still know very

little about how the factors related to fear vary by race (Bachman, et al., 2011). This study will contribute to understanding the factors that influence students' perceptions of school safety through the lens of one high performing, suburban public school district.

This research informs school leaders who plan to address school safety in a preventive manner through intentional management of the climate of the school. Using the lens of one high performing school district, this research illustrates the process of collecting feedback from students of different races, gender and grade level bands of middle school (grades six to eight) and high school (grades nine to twelve). In addition, this study points out that the demographic trends within the district of study as well as the United States are changing. This information informs school leaders who seek to be responsive to the needs of the changing demographic of students.

1.1.1 subgroup definitions used in the survey instrument

Throughout this study the subgroups of race, gender and grade level band are investigated as categorical independent variables. The concepts of race and ethnicity are used interchangeably and are self-reported by respondents as White, Black, Hispanic, Asian, American Indian or Alaskan Native and Native Hawaiian or Pacific Islander. Survey respondents were able to select more than one race and were then assigned a new race category, Two or more races. The survey instrument tool does not describe the racial terms and assumes that respondents understand the terms and see them as distinct. Racial subgroup categories in the survey were primarily derived from the federal standard adopted with Directive 15 of the Office of Management and Budget (OMB) in order to standardize the collection of racial and ethnic information. The standards included four racial descriptors: American Indian or Alaskan Native, Asian or Pacific Islander,

Black, and White, and two ethnic backgrounds: Hispanic origin and not of Hispanic origin (Race and Ethnic Standards for Federal Statistics and Administrative Reporting, 1977). In addition to these descriptors, the survey includes the racial descriptors of Native Hawaiian or Pacific Islander and Two or more races.

Considering that the American Anthropological Association asserted that through the "vast expansion of scientific knowledge in this century, it has become clear that human populations are not unambiguous, clearly demarcated, biologically distinct groups," (Smedley, 1998). It should be noted that the categories, Black and White, are broad description of skin color and differ from other categories, such as Hispanic, Asian, American Indian, Alaskan Native, Native Hawaiian and Pacific Islander, because these terms refer to geographic or ethnic origin or ancestry. Just as Asian people might refer to themselves as Japanese rather than Asian, White people might refer to themselves as Irish. The terms are broad and reflect a social construct rather than a delineation of biological differences. The concept of race was introduced in the early 19th century as a means to classify, sort and control colonized people (*Race and Ethnic Standards for Federal Statistics and Administrative Reporting*, 1977). For the purpose of this research, terms used to describe racial or ethnic terms will be capitalized to avoid any implication of inequality and to show respect while recognizing that capitalization of these terms can be considered a linguistic ambiguity (Perlman, 2015). Racial and ethnic categories for Federal statistics and program administrative reporting are used in this research and defined as follows:

American Indian or Alaskan Native. A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

Asian or Pacific Islander. A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

Black. A person having origins in any of the black racial groups of Africa.

Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

White. A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

The categorical independent variable of gender, is also investigated throughout this study. Students participating in the survey self-report gender. The survey includes two selections of male or female. Respondents had the option of not responding or selecting one option. The survey does not distinguish between gender as determined by biological sex, gender identity or transgender status. This is a limitation of the data as some young children may not identify with the gender assigned to them at birth (Massey, 2011). Both the American Psychological Association and the National Association of School Psychologists acknowledges that binary classification of gender does not affirm the normal and positive variations of the human experience that include diverse gender expressions and identities ("Resolution on gender and sexual orientation diversity in children and adolescents in schools," 2015).

The categorical independent variable, grade level band, is also examined as a student characteristic of interest in this study. Research conducted by the National Longitudinal Study of Adolescent Health illustrates that developmental needs of adolescents evolve throughout the school experience and the fit between the developmental stage of the adolescent and the characteristics of the social environment are key to developing safe and supportive school

environments (McNeely, Nonnemaker, & Blum, 2002). This study examines differences in perceptions of school safety between students enrolled in the grade level bands of middle level students (grades six through eight) and high school students (grades nine through twelve) in the district of study.

1.2 ENROLLMENT TRENDS

The demographic trends of public school enrollment are shifting in the United States. The overall enrollment in public elementary and secondary schools increased from 2003 to 2013. In this same time period, the percentage of White students in public schools in the United States decreased from 59% to 50% of the total enrollment. The percentage of Hispanic students increased from 19% to 25%. The percentage of Black students decreased slightly from 17% to 16%, and the percentage of American Indian students remained relatively constant at approximately 1% of the total enrollment (see Figure 1).

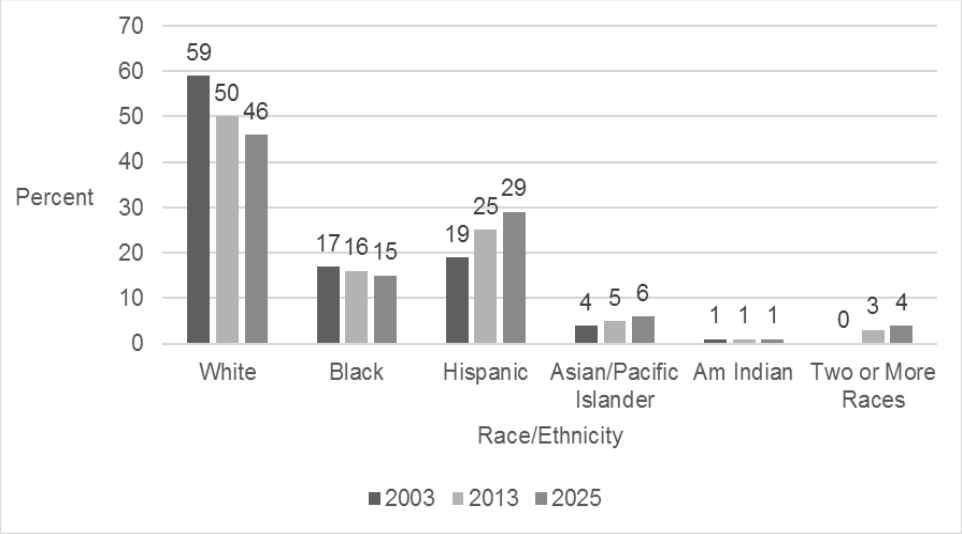

Figure 1: Percentage Distribution of U.S. Students by Race in 2003, 2013 and predicted for 2025 (*Digest of Education Statistics*, 2015).

Overall, school enrollment is projected to continue to increase through 2025 (National Center for Education Statistics [NCES], 2016). Racial and ethnic distributions are changing and reflect demographic shifts in the population. The enrollment of White students in the United States is predicted to continue to decline to 46% of the total enrollment by the year 2025. Both the enrollments of Hispanic students and Asian students are predicted to increase with Hispanics reaching 29% of total enrollment and Asian students reaching 6% of total enrollment in the United States by the year 2025. In fact, the Asian population of five to nineteen year-olds is expected to more than double by the year 2050 from 3.6% in 1995 to nearly 9% (Villegas & Lucas, 2002). Black student enrollment is predicted to decline slightly to 15%, and American Indian student enrollment is predicted to decline to under 1% of total enrollment *(*Digest of Education Statistics [DES], 2015).

The demographic proportions of students' race and ethnicity in the district of study are similar to the majority of Pennsylvania schools. In 2015, the district of study reported an enrollment of 82% White, 14% Asian, 2% Black, 0.6 % Hispanic and 1% reporting that they belong to two or more races. The district of study did not report any students of American Indian on Native Hawaiian race (PDE, 2015). Figure 2 illustrates a comparison of the percentage distribution of students enrolled in Pennsylvania schools with the district of study by race/ethnicity in fall 2015.

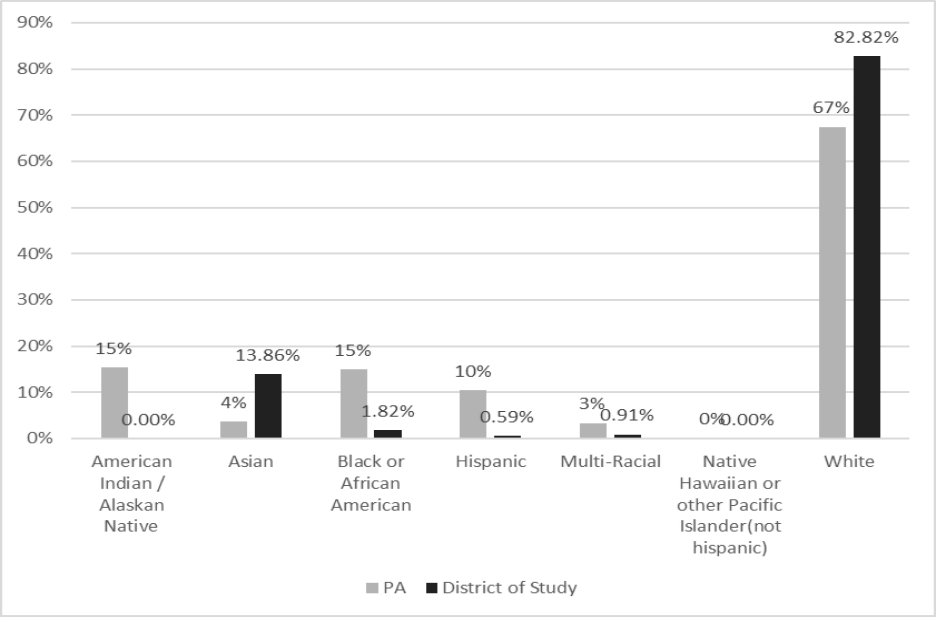

Figure 2. Percentage distribution of Students in PA and district of study in Fall 2015 by race (Digest of Education Statistics, 2015).

One striking trend is the large percentage (14%) of Asian students in the district of study. This is greater than the 4% of Asian students enrolled in public schools in Pennsylvania. In addition, the district of study reports no American Indian or Native Hawaiian students. The district of study does report almost one percent of students who identify with more than one

racial group. It is also important to note that the district of study experienced an increase in the enrollment of Asian students in the past eight years as illustrated in *Figure* 3.

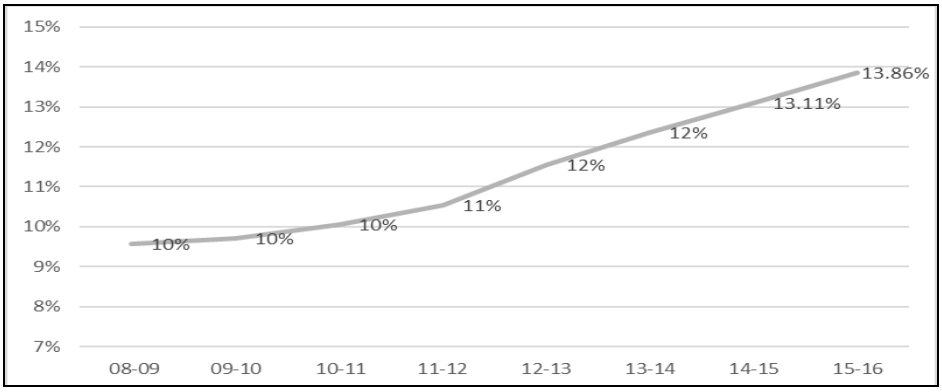

Figure 3. Percentage of Asian students in district of study 2008 to 2016 .

At the same time, the percentage of White students in the district of study decreased from 88% to 82% as illustrated in Figure 4. This trend shows a change in the demographics of the district of study and reflects a similar trend in the nation. The enrollment of White students in the United States is predicted to decline to 46% of the total enrollment by the year 2025. The enrollment of Asian students is expected to reach 6% of total enrollment by the year 2025 (Villegas & Lucas, 2002).

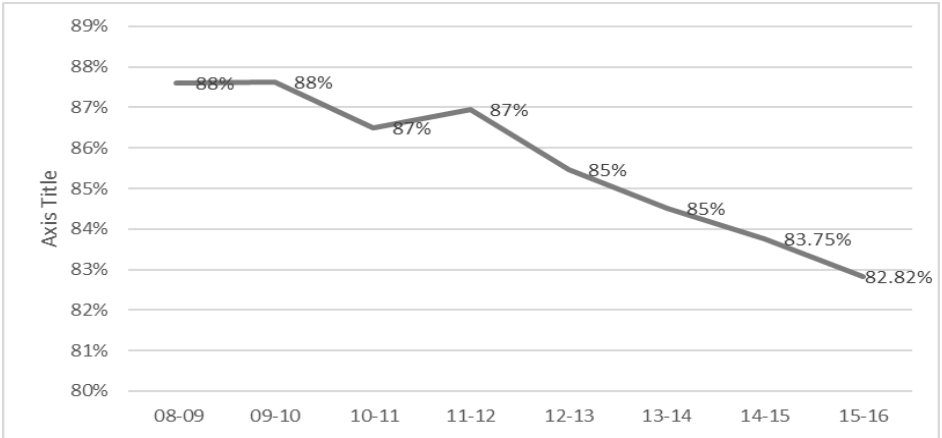

Figure 4. Percentage of White students in district of study 2008-2016.

1.3 TEACHER RACE AND ETHNICITY

The teaching force in the United States is predominantly White as illustrated in Figure 5. The demographics of the teaching force in the United States has shown a consistent, yet slight, decrease in White teachers from 1987 to 2011. More racially diverse teachers have entered the profession in recent years, but the pace has not reflected the shift in the demographics of the population (Robinson, 2013).

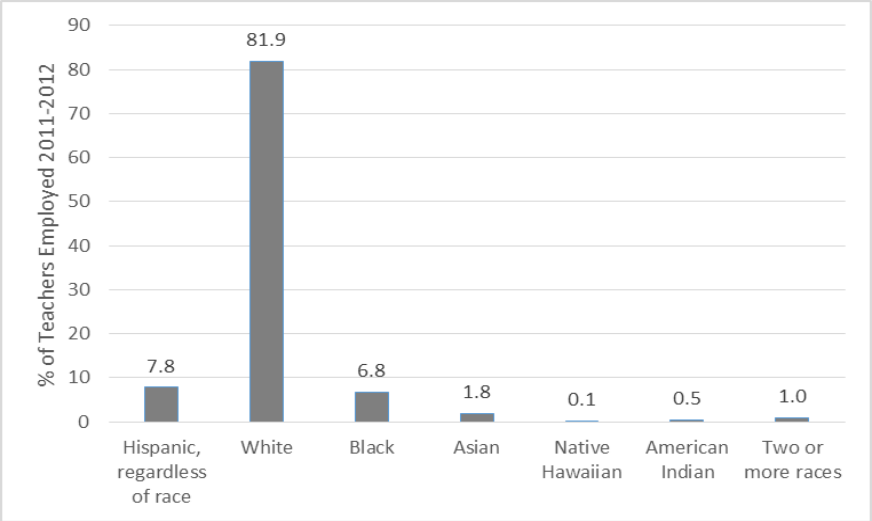

Figure 5. Percentage of public school teachers by race employed in the U.S. in 2011. (U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2011–12).

Figure 6 illustrates a slight decrease in the percentage of White teachers in the teaching force; however, this decrease does not reflect the trajectory of change predicted for student enrollment in the United States. Bachelor's degrees in education awarded during the 2009-10 school year by race were White (82%), Black (6%), Hispanic (4.2%), Asian (1.6%) and less than 1% American Indian (Robinson, 2013).

While the percentage of White teachers in the United States decreased four percentage points from 1987 through 2012 (Figure 6), the enrollment of White students in the United States is predicted to decline to less than half of the total enrollment by the year 2025 (Figure 1). Both the enrollment of Hispanic students and Asian students are predicted to increase with Hispanics reaching 29% of total enrollment and Asian students reaching 6% of total enrollment in the United States by the year 2025 (Figure 1).

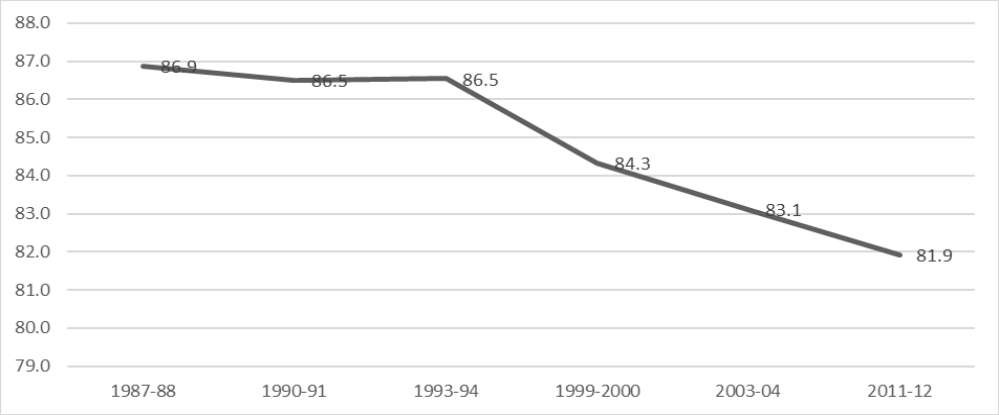

Figure 6. Percentage of White teachers in the U.S. 1977 to 2012. (U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 1987-88 through 2011-12; "Private School Teacher Data File," 1987-88 through 2011-12; and "Charter School Teacher Data File," 1999-2000).

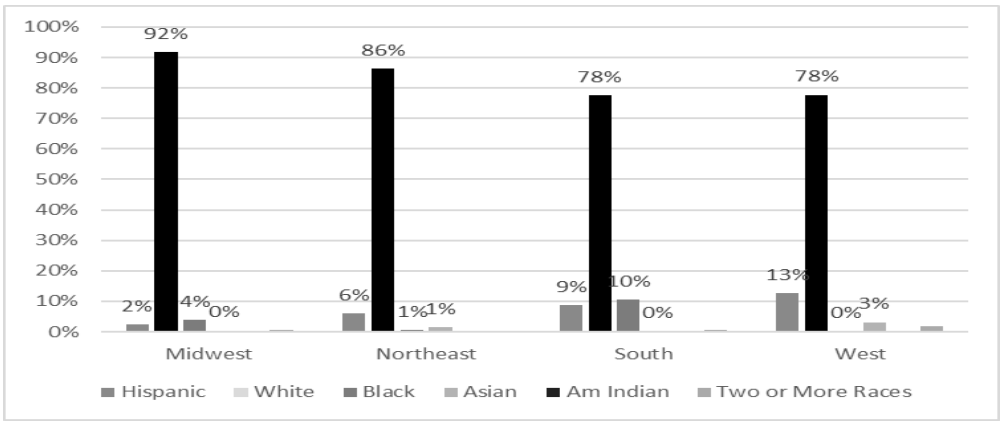

Figure 7. Percentage of public school teachers by race and region in 2012 in the U.S.

In contrast, Hispanic teachers represented only 8% of the teaching force and Asian teachers 2% of the teaching force in the United States in 2011 (Figure 5). Throughout the United States, the teaching force is overwhelmingly White as seen in Figure 7. (U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2011–12).

1.4 GUARDING AGAINST RACIAL HEGEMONY

Historically, public schools throughout the United States have had a predominantly White student enrollment. However, the demographics of race and ethnicity are changing in the population of the United States. Census Bureau projections indicate that by 2050, no racial group will constitute a majority in the United States (Robinson, 2013). The changing demographics necessitate a response on the part of schools to ensure that there is not a social or cultural hegemony related to race. Students who do not feel safe, connected, and respected are not likely to be motivated to learn (Wlodkowski & Ginsberg, 1995). According to Gay (2002), most people in the United States live in communities with others more alike than different from

themselves, even as the population becomes increasingly racially diverse. Students come to school knowing little about people who are racially different from them, yet their lives are destined to become interdependent on a diverse population and a connected to different races and cultures in this globally interconnected world (Gay, 2002). School leaders have a moral imperative to teach students to relate to and appreciate people from different cultures, races, and ethnicities.

When a racial mismatch between students and teachers exist, it is imperative that schools work intentionally to help teachers become culturally competent. As cultural background knowledge develops, teachers can employ this knowledge to select relevant course materials and to take into account cultural differences in interaction styles (Villegas & Lucas, 2002) in order to guard against racial hegemony.

In the absence of intentional efforts to develop a culturally responsive school, unconscious bias and hegemony can prevail, because those with power are frequently least aware or willing to acknowledge the existence of this power (Delpit, 1988). For example, Tenebaum and Ruck (2007) found that White teachers made fewer positive recommendations for children of color than they did for White students. In this study, the district of study recognized that the predominance of White students and staff could result in a hegemonic school climate in which students of minority races and ethnicities might not experience the same sense of safety and engagement. The effort by the district of study to manage school climate intentionally was the first step to develop an organization that is responsive to the changing demographic and integral to a comprehensive school safety plan.

1.5 CULTURALLY RESPONSIVE TEACHING

Schools with a positive cultural climate have values, policies, and practices that acknowledge the importance of culture and the cultural identity of individuals. Culture is defined as shared patterns of behaviors and interactions: ways in which we view the world and understandings that are learned by socialization (Darling-Hammond, 2010). Cultural identity is formed from learned values, beliefs, behaviors, practices and language. In addition, race, nationality, history, gender, sexual orientation and religious beliefs play an important role in developing cultural identity. Cultural identity provides individuals with a sense of belonging with others from a similar heritage, nationality, tradition, language and basic belief system.

Teachers carry their personal cultural background into the classroom. They perceive students, all of whom are cultural agents, with inevitable prejudice and preconceptions. Even without conscious awareness, culture determines how people think, believe, and behave, and these, in turn, affect teaching and learning (Gay, 2010). Because education is a sociocultural process, the individuality of students is deeply entwined with ethnic identity and cultural socialization. If teachers are unable to make distinctions among ethnicity, culture, and individuality, it is likely that they will unknowingly impose their own notions regarding students from different cultural backgrounds or fail to understand cultural differences in interaction styles (Villegas & Lucas, 2002). Seeing cultural differences with a critical lens is indispensable to understanding and acknowledging its effects on student success in the classroom (Pai & Adler, 1997).

The cultural mismatch between students and their teachers continues to be a factor impacting students' academic performance and has created achievement gaps amongst different student groups (Delpit, 1998). School staff must become culturally competent in order to

provide a culturally responsive learning environment that responds effectively to student needs (Villegas & Lucas 2002). When culture is ignored, students and their families are at risk of not getting the support they need. This is especially challenging considering that well-intentioned teachers may avoid any mention of race in an attempt to avoid offense. Teachers may profess color-blindness in the attempt to promote equity. However, an intentional approach to promote culturally responsive teaching can unleash the higher learning potential of students with diverse backgrounds by simultaneously cultivating both their academic and psychosocial abilities. Paley (2000) writes about her own experience of developing cultural competence in her book, *White Teacher*. She posits that the avoidance of learning about differences promotes invisibility and implies an unworthiness to recognize and appreciate diversity (Paley, 2000). Chinese sage, Chang Tzu asserted, "How we view the world is not only about what we see, but about what we do not see," (Sue, 2004, p. 761). Ethnocentric mono-culturalism is a term used to describe the invisible veil of a worldview that suppresses and denies differences, thereby continuing an ethnocentric basis of beliefs, values, and assumptions (Sue, 2004). Because cultural difference is not acknowledged, it serves to impose a sense of normalcy that intrudes on the life experiences of culturally diverse groups (Zusho, Daddino, & Garcia, 2016).

Cultural competence is having an awareness of one's own cultural identity. This is an understanding of cultural differences and commonalities as well as the ability to learn and build on the varying cultural and community norms of students and their families (Gonsoulin, 2014). It is the capability and capacity to understand the strengths and differences within a culture and or ethnic group or groups that make each student unique while celebrating the variations between cultural and ethnic group that make up our country (Gay, 2010). This understanding provides a

basis for the creation of a culturally responsive learning environment and teaching practices that are essential for our nation's schools (Darling-Hammond, 2010).

The highest quality educational programs and practices can never be accomplished if some ethnic groups and their contributions to the development of the history, life and culture of the United States is ignored or demeaned. All schools and teachers, regardless of the ethnic and racial makeup of their local student populations, must be actively involved in promoting equity and excellence so that all students will benefit from these efforts.

1.6 RESEARCH QUESTIONS

This study is a secondary analysis of data collected through a school climate survey administered in May 2016 from students enrolled in a grades six through twelve in one suburban public school district. The secondary data analysis was initiated to improve the understanding of the association between student perception of safety and individual characteristics of race, gender and grade level band. This descriptive study focuses on the perceptions of students in regard to their perception of emotional safety, physical safety and safety from bullying behavior. The study not only investigated associations between these three categories of safety and individual student characteristics but also differences between groups of students by race, gender and grade level subgroups to determine if significant variation between groups existed.

The research questions that guided this study are:

Research Question 1: For questions in each topic area of emotional safety, physical safety and safety from bullying behavior, what was the frequency of responses in each category (strongly disagree, disagree, agree, strongly agree, no response) by race, gender and grade level band?

Research Question 2: Is there an association between the perception of physical safety and student characteristics of race, gender and grade level band?

Research Question 3: Is there an association between the perception of emotional safety and student characteristics of race, gender and grade level band?

Research Question 4: Is there an association between the perception of safety from bullying and student characteristics of race, gender and grade level band?

Research Question 5: Do students who identify themselves in a racial group that is a minority perceive their overall safety significantly different than students in the majority racial group?

1.7 SIGNIFICANCE OF THE STUDY

The focus on school climate as an integral part of a school safety plan is a new idea that is often overlooked as schools focus time, attention and resources to additional physical safety measures. School climate data can provide valuable information to educational leaders to ensure that the needs of all students are met. Intentional data collection regarding school climate gives a voice to students in minority racial and ethnic groups that might otherwise be overlooked. Additionally, school climate data can provide educational leaders a lens on differential perceptions of safety between students of different genders and developmental levels. Lacoe (2015) found that certain factors associated with feelings of safety vary by race and ethnicity.

For example, racial tension appears to be negatively correlated with school safety for Black and Asian students, while disciplinary unfairness is negatively correlated with school safety for Hispanic students These findings suggest that not only are there persistent racial and ethnic gaps in school safety, but different school contextual factors contribute to feelings of safety for students of color (Lacoe, 2015).

This study serves as a call to action for educational leaders to measure and manage school climate, a non-academic indicator of excellence, in order to guard against hegemony and ensure that all students experience emotional safety, physical safety and safety from bullying.

2.0 REVIEW OF LITERATURE

The safety of our schools is a matter of national attention. The *No Child Left Behind* legislation of 2001 obligated states to identify schools that are persistently dangerous and give students the option of transferring to a safe school (No Child Left Behind [NCLB], 2002). This review examines literature pertaining to one aspect of school safety: the collective social and emotional safety of a school, measured through indicators of school climate in K-12 public schools. Focus on the indicators of school climate has intensified both in our country and around the world as a strategy to promote safer, more supportive, and more civil K–12 schools (Thapa et al., 2013). Recent federal law emphasizes the focus in this area as it requires states to include a non-academic measure of success in the accountability measures used to evaluate schools (*S.1177-Every Student Succeeds Act*, 2015). This literature review examines the value of climate data as a preventive measure in a comprehensive school safety plan.

Additionally, this review outlines trends in school crime and violence and subsequent evolution of school safety practices. Crime or violence at school not only affects the individuals involved but also disrupts the educational process and various school stakeholders such as students, staff, parents, and the community (Brookmeyer, Fanti, & Henrich, 2006; Goldstein, Young, & Boyd, 2008).

Many initiatives to improve school safety require financial commitments to add infrastructure or security staff. A focus on a safe school climate is a basic approach that is

impactful and offers a cost effective and successful approach to increasing the safety of a school (Dorn, 2004). In fact, the Center for Disease Control and Prevention (2009) identifies school connectedness as the strongest protective measure to decrease violence. School connectedness is a sense of attachment and commitment that a student feels as a result of perceived caring from teachers and peers (Wilson, 2004). School connectedness is one of several indices included in the measurement of school climate. This is significant to the safety of a school because school climate may even be a better predictor of perception of overall safety than the existence of serious violence (Furlong et al., 2004).

2.1 CHARACTERISTICS OF A SAFE SCHOOL

A healthy and safe school environment encompasses the physical surroundings and the psychosocial, learning, and health-promoting environment of the school. It includes a school health program consisting of health education, physical education and activity, health services, mental health and social services, nutrition services, faculty and staff health promotion, and family and community involvement (Jones, Fisher, Greene, Hertz, & Pretzi, 2007). Alternately, an unsafe school lacks these components of safety. However, when *NCLB* (2002) legislation directed each state to establish criteria to identify unsafe schools and coined the term, *persistently dangerous,* school safety became narrowly defined and highly politicized, because students who enrolled in schools meeting the persistently dangerous criteria were to be offered an alternative *safe* school. The implication was that safe schools were simply any school that did not meet the criteria for *persistently dangerous*. Consequently, states created distinctly different criteria, which also resulted in equally vague definitions of safe schools (Hoff, 2006). This

vague definition of a safe school limited discussion and reporting of criminal incidents, high-risk students, or crisis planning and intervention. Snell (2005) illustrated this in the case of Locke High in Los Angeles. In 2001-2002, there was one sexual offense, 10 robberies, 31 property crimes, 19 batteries, and three assaults with a deadly weapon. Despite these statistics, Locke High School was not identified as a persistently dangerous school. In 2004, 44 states and the District of Columbia reported that all schools were safe, even though the 2003-2004 school year was one of the deadliest in years, with 48 school-related violent deaths from August 2003 through June 2004 (Snell, 2005). States that identified schools as persistently dangerous in this year were Pennsylvania (28), Nevada (8), New Jersey (7), Texas (6), New York (2) and Oregon (1). Other necessary conditions for schools to be safe, rather than just violence-free, were left unexplored. Safe schools were narrowly defined as those that did not experience serious incidents of crime and violence or the intrusion of an armed threat and solutions tended to be quick and politically expedient (Hammond, 2002a).

School safety is broad, comprehensive, and includes proactive measures. According to the United States Department of Education (2013), emergency readiness includes prevention, protection, mitigation, response, and recovery. These measures prevent the occurrence of unsafe situations. School safety also addresses reactive measures such as response planning. This aspect of a school safety plan can reduce or prevent injury or death when people react in a way that is efficient and supportive of the effort of emergency responders. Recovery planning is another aspect of a comprehensive school safety plan that establishes guidelines for how staff will support students to deal with the subsequent emotions that will be present following a crisis as the school attempts to return to normal operations (Dwyer, Osher, & Warger, 1998).

Safety plans must be customized to the needs of the community (Practical Information on Crisis Planning, 2007). While there is no single approach to establishing a safe school, the development of a positive school culture impacts the safety and security of every school (Esquith & Osher, 2013). Well-functioning schools foster learning, safety, and socially appropriate behaviors. They have a strong academic focus and support students in achieving high standards, foster positive relationships between school staff and students, and promote meaningful parental and community involvement (Dwyer, et al., 1998). While many surveys collecting data on school safety maintain a narrow focus on actual criminal violations and fail to include student perceptions of school safety, connection to school and school climate are factors that are the greatest predictors of student perception of safety (Furlong et al., 2004).

2.2 SCHOOL SAFETY TRENDS IN THE UNITED STATES

The majority of our nation's schools are safe havens for children. For example, the likelihood that one of the approximately 125,000 schools will experience a student homicide is once every 6,000 years (Borum, Cornell, Modzeleski, & Jimerson, 2010). Between 1996 and 2006, the United States had on average 21 student deaths per year occurring on school property (Mayer & Furlong, 2010). The percentage of youth homicides occurring at school remained at less than three percent of the total number of youth homicides between 1992–93 and 2012–13 (Zhang et al., 2016). The highest number of school related deaths in the past 20 years was 63 deaths during the 2006-2007 school year; the majority of these were a result of school transportation accidents (Satterly, 2014). Far more students and staff have suffered injury or death from accidents and medical emergencies, yet violent attacks cause far more fear and anxiety for many students, staff,

and parents (Van Dorn, 2004). Scholars have referred to "The Columbine Effect" as a significant indicator of a growing national problem of school violence framed by the media, even though statistical data failed to show an increase in violent school deaths (Boxer, Edwards-Leeper, Goldstein, Musher-Eizenman, & Dubow, 2003). School shootings are rare, tragic occurrences that raise our level of concern and create a sense of urgency to act. The most recent data published from the National Center for Education Statistics focused longitudinally on students ages 12-18 and reported a number of indicators that demonstrate an increase in the safety of America's schools over the past decade. Figure 8 illustrates a decrease in the nonfatal student and teacher victimization rate between 1992 and 2014 both on school grounds and away from school.

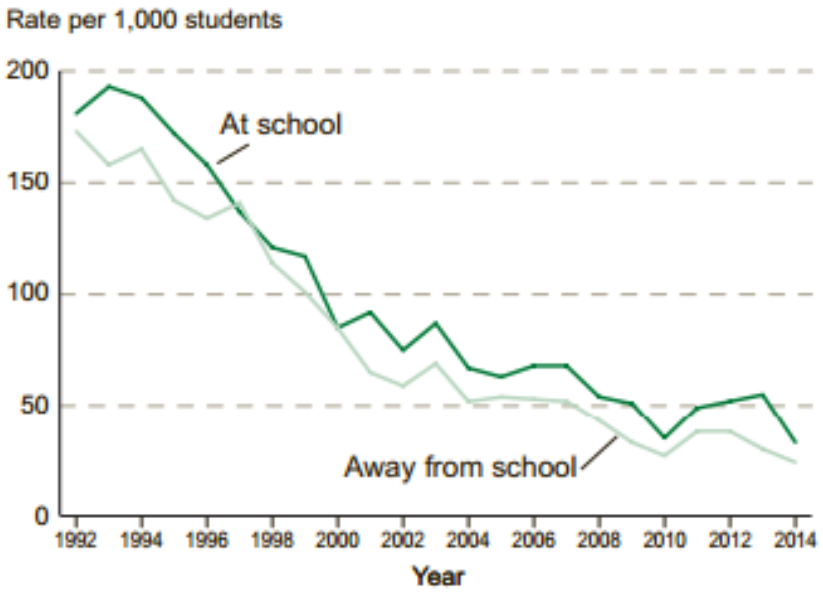

Figure 8. Rate of nonfatal victimization against students ages 12-18 (Zhang et al., 2016).

In addition, between 1995 and 2013, students reported experiencing less crime overall; victimization at school during the previous six months decreased from ten to three percent, violent victimization decreased from three to one percent, serious violent victimization decreased from one percent to less than half of one percent, and experience of theft at school decreased

from seven to two percent (Robers, Zhang, Morgan, & Musu-Gillette, 2015). Students also reported a decrease from nine to seven percent in threats or injury with a weapon on school property between 2003 and 2013. The percentage of students who reported carrying a weapon on school property in the previous thirty days decreased from twelve percent in 1993 to five percent in 2013 (Robers et al., 2015). The percentage of students who reported being afraid of attack or harm at school or on the way to and from school decreased from twelve percent in 1995 to three percent in 2013. In addition, the percentage of students who reported that student bullying occurred once per week decreased to the lowest point in 2014 (16 percent) when compared with every prior survey year since 2000 (Zhang et al., 2016). Finally, the percentage of high school students who reported being in a physical fight on school property decreased from sixteen to eight percent (Robers, et al., 2015).

Although students' fear of crime at school has decreased since 1995 and rates of victimization have continued to decrease, this has not been accompanied by an increase in students' reporting a perception of safety from harm at school. In fact, the percentage of students being fearful of harm at school has remained relatively constant since 2001 (R. Bachman et al., 2011). A Gallup Poll in August 2015 found that ten percent of parents of children in K-12 schools reported that their child expressed worry about their safety in school. This figure has ranged between eight and twelve percent each year since 2003 (McCarthy, 2015).

Researchers caution the interpretation of school safety data, because there is neither consensus in assessing the degree of seriousness of problem student behaviors nor standards of harm that distinguish between crisis events or experiences and chronic low-level victimization (Mayer & Furlong, 2010). Many crimes that occur at school are not reported to the police. For example, during the 2009-2010 school year, 85% of public schools reported that one or more

crime incidents had taken place at school. This is a rate of 40 crimes per 1,000 public school students. However, during the same year, 60% of public schools reported a crime incident that occurred at school to police. This is a rate of fifteen crimes per 1,000 public school students. If this example in the 2009-2010 school year is representative of the reporting in subsequent years, it indicates that many crimes are not reported to police. Figure 9 illustrates rate of crimes at school per 1,000 students that were recorded and reported to police by type of crime in the school year 2009-2010.

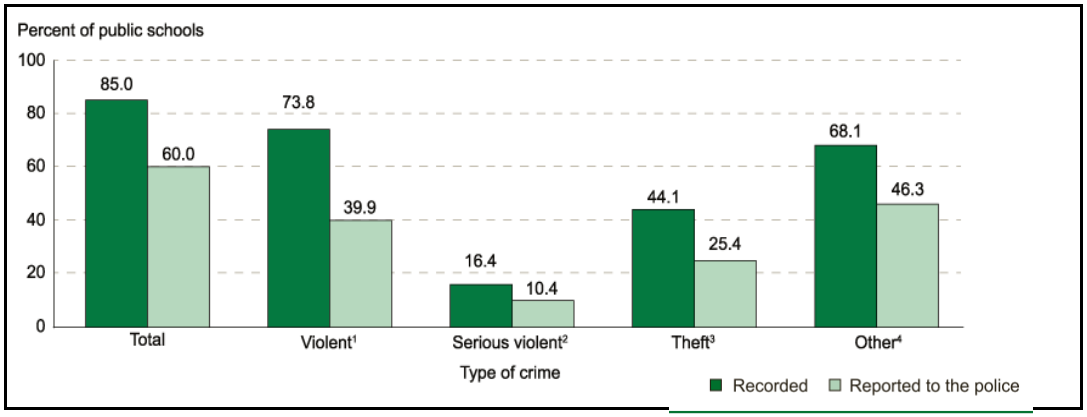

Figure 9. Percentage of public schools recording and reporting to police incidents of crime at school, by type of crime in the school year 2009-2010 (National Center for Education Statistics, 2016).

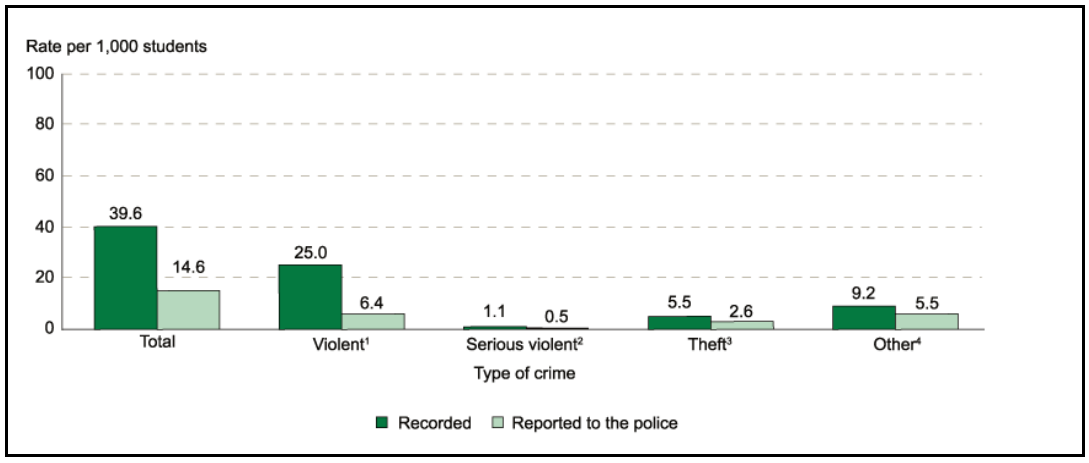

Figure 10. Rate of crimes at school per 1,000 students reported to police, by type of crime in the school year 2009-2010 (Digest of Education Statistics, 2015).

While trend data does not illustrate an increase in school violence, the fear and anxiety that incidents of school violence have caused result in a call for action that cannot be dismissed by educational leaders. Consequently, the safety of our schools is a topic that generates emphasis and attention. Millions of dollars are being committed for school security devices to prevent active shooter events at the expense of other preventive safety measures (Satterly, 2014). Policy proposals have largely promoted and funded the increase of visible security because they fit within existing national debates to the exclusion of consideration of mental health care, student supports, and universal prevention programs that have been demonstrated to be evidence-based approaches to prevent violence in schools (Kupchik, Brent, & Mowen, 2015). Adding physical security measures is a quick fix solution to a complex problem and may even have the unintended consequence of raising fear and anxiety in students (Greene, 2005). For example, as students enter through locked doors, monitored by cameras, under the watchful eye of armed policemen on site, it can lead students to believe that the environment must be unsafe to warrant this level of physical security. Addington (2009) posited that the widespread adoption of enhanced security measures at schools also has the unintended negative consequence of conditioning students to accept regular surveillance and inspection as a norm at the expense of mutual trust and respect between staff and students.

A report issued by the U.S. Secret Service and the Department of Education reported that one of the best things that schools can do to reduce violence and bullying is to improve a school's climate and increase trust and communication between students and staff (Now is The Time, 2013). Bill Bond was the principal of West Paducah High School in 1997 when a shooting killed three students at his school. He testified to the House Committee on Education

and the Workforce about the critical aspect of a positive school climate as a safety preventive measure saying:

> Your best protection is a trusting relationship between adults and students that encourages kids to share responsibility for their safety and share information. Kids very often know what's going on in the school and what might cause a crisis. So information from students is more valuable than any camera or locked door. And kids will give that information to an adult they know well and trust. If they don't trust you and someone is planning something destructive, it's difficult to avoid the tragedy. It's a matter of how many will be killed before he stops or kills himself. (Protecting Students and Teachers, 2013).

2.3 THE HISTORY OF SCHOOL CLIMATE RESEARCH

The research on school climate has a foundation in the study of both organizational climate and school effects research. Anderson (1982) conducted an analysis of school climate literature on over 200 references using an organizational theory taxonomy to organize the diverse body of research and to draw conclusions about common findings. Anderson (1982) found the two most prevalent examples of research on organizational climate studies were the study of organizational climate for customer service and organizational climate for safety. This study emphasized the finding that organizations with a stronger organizational climate were also prone to be safer work environments. Similarly Zohar (2010) found a relationship between leadership and safety climate that can be largely explained as an extension of the leader's concern for group members' welfare. Schneider, Erhart, & Macey (2012) used longitudinal data at the organization level of

analysis to show that companies with higher levels of service climate had higher customer satisfaction and superior financial performance. School climate studies are similar to organizational climate studies in that a key attribute of organizational climate is that it involves employee perceptions regarding selected characteristics or features of their organizational environment (Halprin & Croft, 1976).

School climate research has also paralleled the interest in research related to school effectiveness. This research sought to identify school level characteristics that had a causal relationship to student learning (Sammons, Hillman, & Mortimore, 1995). Rutter (1983) noted that the factors representing the internal life of a school, such as attitudes, values and mores account for much of the variation between schools, but this aspect was largely ignored in school effects research. Research continues to grow in this field (Cohen, Mccabe, & Michelli, 2009), but it is not a new idea. One of the early proponents of school climate was Dr. Arthur C. Perry, Jr. As the Superintendent of New York City Schools in 1908, he emphasized the importance of establishing an esprit de corps, because he surmised that the sentiment of the group has an effect on individuals. He directed principals to use every means to impress upon the sentiment of the group, believing that it would influence every child (Perry, 1908). In the following hundred years, the study of school climate has undergone an evolution, and more research has added to our understanding of what it is and how it has an impact on positive student outcomes (Gangi, 2009).

School climate research received a boost in 2010 when the Office of Safe and Healthy Students within the U.S. Department of Education funded Safe and Supportive School grants to states to measure conditions for learning and establish a systematic approach to improve these conditions, which included school safety and the implementation of programmatic interventions.

Eleven states were awarded a total of 38 million dollars (National Center on Safe Supportive Learning Environments, 2015). Each grantee was required to measure school climate as an initial step toward the goals of the grant. Each of the grant awardees used the Youth Risk Behavior Surveillance Summary (YRBSS) to measure the constructs of diet, use of illegal substances, physical activity and sexual activity. However, the YRBSS did not include a measure of a student's sense of emotional safety or sense of belonging and engagement in the school community. The impetus for schools to measure school climate as an indicator of quality was strengthened with the passage of the *Every Student Succeeds Act* of 2015. This federal law expanded the scope of student and school success beyond standardized tests by requiring public schools to implement at least one indicator of non-academic school quality that also allows for meaningful differentiation in school performance and is valid, reliable, comparable and includes one measure of student engagement; educator engagement; student access to and completion of advanced coursework; postsecondary readiness; school climate and safety; or other indicator the State chooses that meets the requirements of this clause (*S.1177-Every Student Succeeds Act*, 2015). With this increased attention to school climate, recent research has identified important outcomes to students' education and health outcomes (Voight & Nation, 2016).

2.3.1 Definition of school climate

School climate describes a range of conditions in the school environment that may influence student learning and well-being (Esquith & Osher, 2013). including safety, relationships and engagement, and school climate has been conceptualized in many ways in the literature. School climate is a collective measure of the personality of the school. It represents the values, norms, and culture of the school. The National School Climate Council (2007) recommends that a

positive and sustained school climate be considered as a measure of the patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures (Thapa et al., 2013). The climate of a school is experienced emotionally by students, staff, and parents, but it can be managed in an intentional and systematic manner that begins with a needs assessment.

Measuring school climate is a complex and messy task, because school climate is a composite or latent variable and cannot be observed directly; rather it is instead comprised of a set of latent domains. There is no agreed upon set of factors for evaluation. In 2009 a comprehensive process undertaken by the National School Climate Council, the National School Climate Center and many educational leaders resulted in the creation of standards to present a vision and framework for a positive school climate. National organizations such as the National School Board Association, the American School Health Association and the National PTA have endorsed the standards (*National School Climate Standards*, 2009). These standards are listed in the next section and highlight the effort to develop a common language to focus this measurement and work toward the development of a common theoretical model of school climate.

2.3.2 National School Climate Standards

The National School Climate Standards are:

1. The school community has a shared vision and plan for promoting, enhancing and sustaining a positive school climate.
2. The school community sets policies specifically promoting (a) the development and sustainability of social, emotional, ethical, civic and intellectual skills, knowledge,

dispositions and engagement, and (b) a comprehensive system to address barriers to learning and teaching and reengage students who have become disengaged.

3. The school community's practices are identified, prioritized and supported to (a) promote the learning and positive social, emotional, ethical and civic development of students, (b) enhance engagement in teaching, learning, and school-wide activities; (c) address barriers to learning and teaching and reengage those who have become disengaged; and (d) develop and sustain an appropriate operational infrastructure and capacity building mechanisms for meeting this standard.
4. The school community creates an environment where all members are welcomed, supported, and feel safe in school: socially, emotionally, intellectually and physically.
5. The school community develops meaningful and engaging practices, activities and norms that promote social and civic responsibilities and a commitment to social justice. (*National School Climate Standards*, 2009)

2.3.3 Challenges to define the climate of an organization

Argyris (1958) articulated the dilemma of defining the climate of an organization in his case study of a bank by asking: "How is this living complexity, conveniently defined as 'the climate of the organization', to be analyzed and conceptualized without presenting us with an oversimplified picture of reality, a picture devoid of the life one is committed to studying?" (p. 502). Anderson (1982) agreed and identified the fundamental problem in defining an organization as the confusion of attributing influence from student background with school variables, a problem for nonrandom distributions, in which differences in outcome cannot be clearly assigned either to climate or to the nature of students as individuals.

There is not a national or international consensus about how to define school climate or even the dimensions that need to be measured in school climate research and improvement efforts (Thapa et al., 2013). The gaps in research can be attributed greatly to a lack of leadership as policymakers have not agreed upon evidence-based measures of school climate assessments. While Bradshaw, Waasdorp, Debnam, & Johnson (2014) cited the lack of universally agreed upon set of core domains, commonalities are also evident as discussed in a prior section on National School Climate Standards. Educators agree that school climate is a broad concept and should include measures of interpersonal relationships, teaching and learning, school safety and the institutional environment (Osher & Boccanfuso, 2012). Despite this lack of clarity, research in the area of school climate has been recognized as an asset-based approach that is more holistic in focus than many school effects studies (Anderson 1982).

2.3.4 Theoretical models of school climate

The National Center on Safe Supportive Learning Environments (NCSSLE) maintains a current compendium of valid and reliable surveys, assessments, and scales of school climate that can assist educators in their efforts to identify and assess conditions for learning. This platform includes a suite of 30 survey instruments developed for schools, districts, and states. The domains measured include engagement (cultural and linguistic competence, relationships, participation), safety (emotional safety, physical safety, bullying/cyberbullying, substance abuse, emergency readiness/management), and environment (physical environment, instructional environment, physical health, mental health, discipline) (Safe and Supportive Schools, n.d.). While commonalities exist among school climate measurement tools, distinct differences exist in the factors or indicators analyzed and the conceptual models used to measure climate.

Thapa et al. (2013) examined indicators of school climate and defined five essential areas of school climate: safety, healthy relationships, engaged learning and teaching, and school improvement effort, while acknowledging that there is not yet a consensus about which dimensions are essential to establish a valid measure of school climate. This review compiled a list of more than 200 references of which 5% were experimental studies, 45% correlational studies, 25% literature reviews, and 25% other descriptive studies including qualitative studies. In schools without supportive norms, structures, and relationships, students were more likely to experience violence, peer victimization, and punitive disciplinary actions, often accompanied by high levels of absenteeism and reduced academic achievement (Astor, Guerra, & Van Acker, 2010).

Thapa et al. (2013) recommend that school climate measurement initially be conducted with the use of reliable and valid surveys and observational measures that assess how students, parents/guardians, school personnel, and community members perceive school life in four major areas: safety, relationships, teaching and learning, and the institutional environment, including its mission and norms. In contrast, the U.S. Department of Education's model (see Figure 11) focuses on safety, engagement, and the environment, but it does not consider teaching and learning as factors contributing to the school climate (*Technical and Administration User Guide for the ED School Climate Surveys* [EDSCLS], 2016). The first pillar in the U.S. Department of Education's theoretical framework is engagement. Engagement is defined as the participation, engagement and cultural and linguistic competence. The second pillar, safety, encompasses emotional safety, physical safety, safety from bullying, use of illegal substances and emergency readiness management. The final pillar is a measure of the environment. This includes the

instructional environment, physical environment physical health, mental health and discipline (Osher & Boccanfuso, 2012).

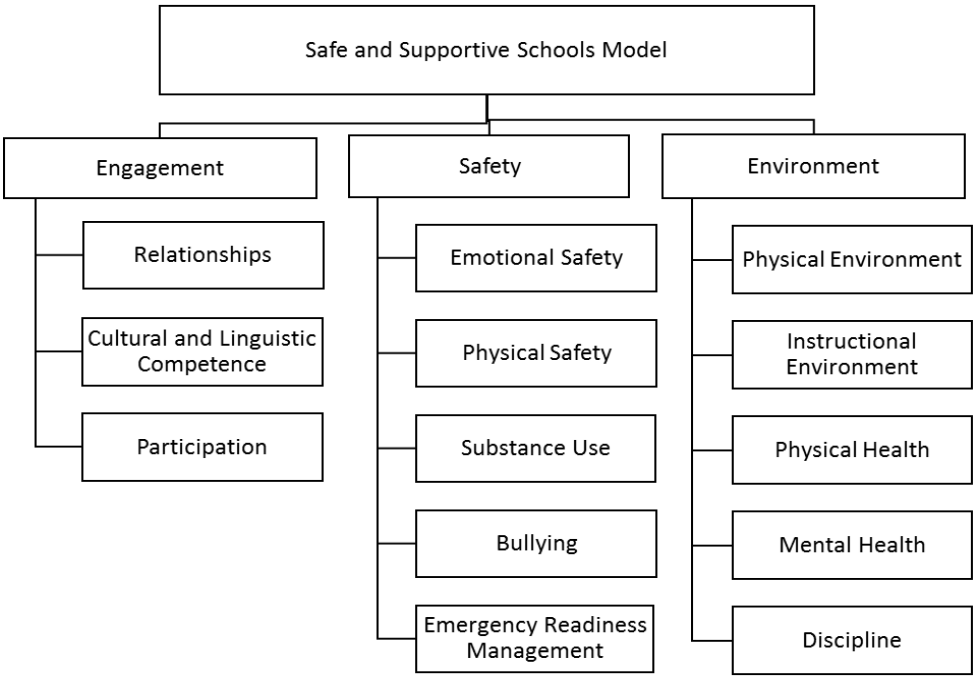

Figure 11. U.S. Department of Education theoretical model of school climate (Osher & Boccanfuso, 2012).

The United States Secret Service also identified major components for a safe school climate. They recommended assessment of the school's emotional climate with an emphasis on the importance of listening in schools, adoption of a strong, caring stance against the code of silence, prevention of and intervention in bullying, involvement of all members of the school community in planning, creating, and sustaining a school culture of safety and respect, development of trusting relationships between each student, and at least one adult at school and the creation of mechanisms for developing and sustaining safe school climates (Fein, Vossekuil, Pollack, Borum, Modzeleski, & Reddy, 2004).

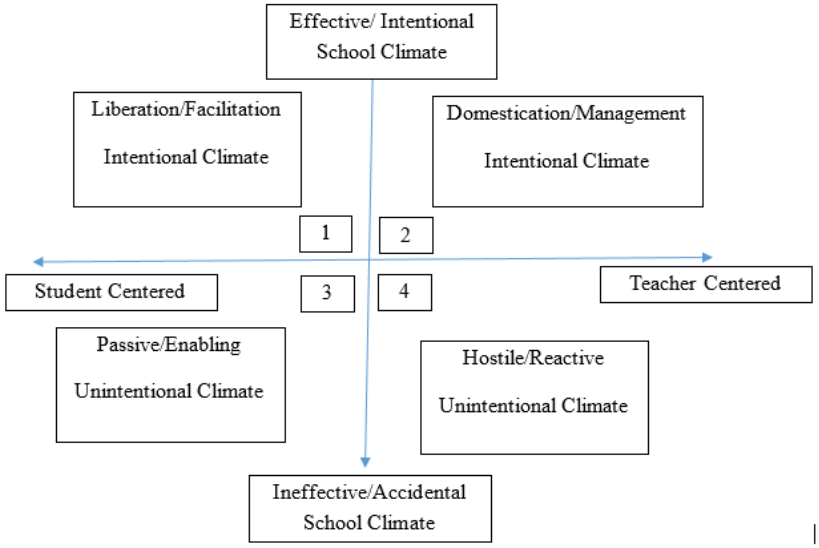

Figure 12. Four-quadrant matrix of school "climate goal" orientation (Shindler, Taylor, Cadenas, & Jones, 2003b).

Schindler (2003) argued that there is no single concept of a positive school climate. The definition of a positive school climate is instead constructed by individuals who work and interact with a particular school. His study promoted the idea that an analytic school climate instrument supports the work of a school team to create a vision of their unique concept of a positive school climate (Figure 12).

Figure 12 distinguishes a school's intentional effort versus an unintentional outcome since it is important to recognize that a school could have a positive climate without an intentional effort to achieve this outcome. Shindler, et al. (2003) drew on the work of Finn (1999) to classify school practices as liberation/facilitative or domesticating/managerial. These components were organized on a continuum and resulted in a four quadrant matrix that describes the goal orientation toward the organization's personal definition of a positive school climate. Quadrants one and two represent intentional climates in which the school community actively pursues a positive school climate. Quadrant one is empowering and facilitative. In this climate,

decision-making is shared and both staff and students acknowledge a shared responsibility for creating a supportive environment in which students and staff experience a sense of belonging, physical safety, and emotional safety. Quadrant two also denotes an effective and intentional school climate. The difference from quadrant one is that quadrant two represents domestication and managerial. The school leader is strong, nurturing, and a central figure who preserves order and ensures care for adults and students in the school environment. It is teacher-centered, values direct instruction and lacks teacher and student voice or shared responsibility. Quadrants three and four denote school climates that develop accidentally without an intentional effort to address them. Both are considered ineffective. Schools in quadrant three have unintentional climates that are passive and lack structure, while quadrant four schools are overly controlling. Both fail to empower staff and students and indicate a lack of belonging to a cohesive community (Shindler et al., 2003). This framework emphasized that the climate goals of an organization are socially constructed and significantly influenced by the leadership style of the building principal.

2.3.5 Positive outcomes associated with school climate

The study of school climate is important, because research has identified an association with numerous positive outcomes. A positive school climate promotes healthy relationships, school connectedness, and prevents dropout (Thapa et al., 2012). The climate of a school is also a crucial aspect of the school setting in relation to student aggression and behavior (Haynes, Comer, & Hamilton-Lee, 1989; Haynes, Emmons, & Ben-Avie, 1997). School climate may even predict and promote the life satisfaction of students (Suldo, Thalji-Raitano, Hasemeyer, Gelley, & Hoy, 2013).

2.3.6 Challenges to qualify perfections of school climate

Thapa et al. (2013) completed a review of literature that points to a plethora of favorable outcomes from a positive school climate. The review cites the powerful influence of creating an environment that meets the developmental needs of the child (Eccles et al., 1993). Additionally, a positive school climate mitigates negative impacts of the socioeconomic context on academic success (Astor, Benbenisty, & Estrada, 2010), and contributes to less aggression and violence (Gregory et al., 2010), less harassment for students based on sexual orientation (J. G. Kosciw, Greytak, & Diaz, 2009), and less sexual harassment (Attar-Schwartz, 2009). In addition, school climate has been shown to act as a protective factor for the learning and positive life development of young people (Ortega, Sanchez, Ortega Rivera, & Viejo, 2011) and is critical to effective risk prevention (Berkowitz & Bier, 2006). Positive school climates have an effect on the organizational climate of adults as well as students. School-wide democratic processes that are open and collaborative result in a more satisfying climate for adults to work (Cohen et al., 2009). Challenges to quantify perceptions of school climate

School climate is a measurement of the perceptions of school stakeholders, parents, students and staff. Any method to quantify this array of perceptions must consider the effect of different measures of central tendency since climate measurement varies as a result of placing a value on the variance between stakeholder viewpoints. For example, if the mean of all stakeholder responses was used to quantify a climate indicator, the outlier responses would be taken into account. However, if the distribution is skewed, this may not represent the notion of the middle as the outliers influence the distribution. Alternately, the median reduces the effect of outliers and may provide a better measure with a skewed distribution.

Numerous researchers have cautioned against misinterpretations with aggregated data that could result when group effects are generalized to apply to individuals (Anderson, 1972; Blalock, 1971; Cronbach, 1976). Van Horn (2003) considered the effects of varied stakeholder perceptions and noted that when school-level theory is used, the climate measure is the mean of the raters' scores. Each rater assesses the climate, and then differences among raters are considered error. His research examined an alternate view that school climate may be more accurately examined as an individual level property unique to each stakeholder. In this view, the climate of the school is different for each participant in the organization based on personal characteristics and perceptions. The climate ratings for each individual would then be combined to form a measure of climate quality (Lindell & Brandt, 2000). In this theory, differences are considered reflections of individual perceptions and represent areas of interest not error among raters. He noted that most school climate researchers begin with an assumption that the unit of theory for climate measurement is the school, in which each stakeholder (parents, children, teachers, principals) experiences the climate through their interactions with the school. Van Horn (2003) reported that, due to measurement difficulties, the selection of variables and controls, and ambiguity concerning which statistical analyses to use, school climate has been a discouraging area of research for some and recommended that school-level theory be used with a large sample size. Bevans, Bradshaw, Miech, & Leaf (2007) explored the diverse perceptions of school climate between individuals with different social backgrounds or who worked in different roles within the same organization. They cautioned that aggregating data across individuals may result in the loss of important information regarding the experiences of various subgroups and the opportunities to address them. For example, if a particular subgroup of students lacks connectedness and feels disenfranchised, as has been acknowledged in the Columbine school

tragedy (Larkin, 2007), using the mean as a measure of central tendency of the group may not draw attention to outliers and may result in a lost opportunity to focus on this sense of exclusion and disconnectedness.

Van Horn (2003) also conducted a psychometric analysis of a modification of the School Climate Survey for an elementary school population. The data collected was part of the National Head Start Transition Demonstration Project, a six year longitudinal study following the transition of former Head Start and non–Head Start children through third grade. Using a confirmatory factor analysis, Van Horn found a stable and identical factor structure both within and between schools. He also noted an unexpected finding that some of the school climate variables were negatively related to children's performance, especially the subscale completed by both teacher and principal. These ratings of administration were negatively related to most performance measures. Van Horn speculated that it may be that the items on the subscale evaluated aspects of the school that are not positive, such as the constructs of cooperation and communication between administrators, teachers, parents, and students, and establishment of high expectations. Although Van Horn cautioned against respondent bias that could mask a realistic measure, he concluded that the factors used in the school climate survey were appropriate and the tools recognized as a valid and useful measure of school climate.

In a review of the literature, Anderson (1982) found agreement among researchers that understanding the influence of school climate also led to understanding and prediction of student behavior. Yet, there is a large range of variance between studies. This was reported as Steffgen, Recchia, & Viechtbauer (2013) conducted a meta-analytic review of 36 independent studies. While the review showed a moderate, negative relationship between individual students' perceptions of school climate and violence, it also acknowledged significant heterogeneity and

was not able to identify specific factors explaining this relation. However, it emphasized the impact of environmental factors on violent behaviors in schools and cited a need for additional research regarding the relationship between school climate and violence (Steffgen et al., 2013).

2.4 SCHOOL CLIMATE: PART OF A SCHOOL SAFETY PLAN

The focus of this review is the investigation of school climate as a critical aspect of a school's comprehensive school safety plan. Recently, the idea of an intentional focus on school climate has been met with renewed interest in the United States. President Obama emphasized the U.S. government's support of school climate as a strategy to reduce violence in his address to the nation and subsequent release of a comprehensive plan to reduce gun violence on January 16, 2013 (*Now is the Time*, 2013). This address was in response to the December 2012 tragedy at Sandy Hook Elementary School in Newtown, Connecticut when an armed man broke into the school and killed 20 children. Six staff members died trying to protect the children (Vogel, Horwitz, & Fahrenthold, 2012). President Obama outlined this plan to increase school safety, reduce gun violence, and increase mental-health services. Following his address, the U.S. Department of Education awarded more than 70 million dollars to 130 grantees in 38 states under four new grant programs that funded local initiatives to develop, enhance, or expand systems of support for implementing evidence-based, multi-tiered behavioral frameworks for improving behavioral outcomes and learning conditions for students (U.S. Department of Education, 2013).

Emphasis on school climate from the federal government continued with the publication of *Guiding Principles: A Resource for Improving School Climate and Discipline* in January

2014. The report acknowledged the challenge and complexity of creating and maintaining a nurturing, positive, and safe environment in schools. It concedes that there is no single approach that will work for every school, and it describes three key principles and action steps to support state and local efforts to improve school climate and discipline. The guiding principles outlined are for schools to: (1) Create positive climates and focus on prevention; (2) Develop clear, appropriate, and consistent expectations and consequences to address disruptive student behaviors; and (3) Ensure fairness, equity, and continuous improvement (USDOE, 2014).

2.4.1 School climate as a safety preventive measure

A relationship between school climate and safety prevention in regard to student aggression and behavior has been established in the literature (Haynes, Comer, & Hamilton-Lee, 1989; Haynes, Emmons, & Ben-Avie 1997). A positive school climate is a critical safety preventive measure in a comprehensive school safety plan (Dwyer, Osher, & Hoffman, 2000). A positive climate is a proactive step to reduce the likelihood of emergencies and the incidence of behaviors that contribute to crises such as violence, bullying, harassment, and substance abuse. The process of creating and maintaining a positive school climate builds the capacity of both students and staff through the development of social and emotional competencies.

Guerra, Williams, and Sadek (2011) conducted research over a three-year period between 2005 and 2008. Using both surveys and focus groups to understand bullying and victimization, the researchers reported a negative association between positive school climate and bullying and victimization. They attributed this prevention to the use of resources for positive youth development and the creation of a trusting environment where victims were willing to speak out and seek adult support.

2.4.1.1 School connectedness

School connectedness acts as a safety preventive measure. It is the belief by students that adults in the school care about their learning as well as them as individuals. Brookmeyer, Fanti, and Henrich (2006) conducted a study showing a joint contribution of connectedness to parents and schools as a buffer to violent behavior. This study used data from the National Longitudinal Study of Adolescent Health (Add Health), which included a sample of 6,397 students from 125 schools to show that parent and school connectedness work together to buffer adolescents from the effects of violence exposure on subsequent violent behavior.

The Center for Disease Control and Prevention (2009) expanded the definition of school connectedness to include peer influence, because studies indicated that individual feelings of connectedness are influenced by peers as well as adults. Research shows that peer influence contributes to the prevention of student aggression, victimization, and violence (Karcher, 2004; Skiba & Knesting, 2001). Research illustrates that the perpetrators of school violence are influenced by many circumstances, ranging from individual factors such as mental illness or a history of abuse to community and societal factors such as levels of school security, the quality of student and peer relationships, and predominant societal messages about violence and masculinity (Sellers, 2014).

Perceptions of school climate and the connections and support that students identify are essential to crime reduction (Kerr, 2009). While acknowledging the complexities that move individuals to perpetrate acts of school violence, it is still significant to note that a lack of connectedness to school was clearly significant in the case of the school shootings at Columbine High School in 2007. Larkin (2007) reports that Eric Harris, one of the boys responsible for the violence, was shy, new to the school, and did not belong to any school organizations, clubs or

church groups. He gravitated to Dylan Klebold, the other boy responsible for the violence, who was also outside of the dominant peer structure. Both boys were degraded and excluded both by peers who were athletic as well as by those who belonged to a strong religious group of evangelical students in the school (Larkin, 2007).

Connell, Barbieri, and Reingle Gonzalez (2015) sought to advance the understanding of the relationship between positive school environments and violence through an examination of the effect of school-level variables on the reporting of risky behaviors, specifically weapon carrying and students' willingness to report weapons carried by other students. They found that increases in the attachment of students to their school, as well as programs that improve the school climate, may be influential in increasing weapon-reporting behaviors among students.

Bryk and Driscoll (1988) demonstrated that schools with lower levels of violence also have positive psychosocial climates. They purport that a sense of community in which an extended network of caring adults who regularly interact with students and share norms and expectations relate to lower levels of problem behaviors. The implication is that school measures can influence violence that originates within the school. When a student perpetrates violence towards other students or staff, media focus has primarily focused on the context of family, community, and peer group to determine where supportive measures were insufficient to prevent the violent behavior of the child (Astor, Benbenishty, Zeira, & Vinokur, 2002). Rarely has research and the media focused on the school's responsibility to create an environment that could have supported the child and prevented violent action, even though schools can influence the prevalence of violence within the school (Gottfredson & Gottfredson, 2001). Research has not explored how school variables are related to students' feelings and relationship to the climate of the school.

Larkin (2007) reports that the tragic school shooting at Columbine High School exemplified a school climate that failed to do this. Faculty and administration allowed predatory behavior in the hallways and public spaces. They routinely bent school rules so that bad behavior did not interfere with sports participation. In this way, they created a climate that was rife with discrimination, intimidation, and humiliation (Larkin, 2007). This is significant, because perceptions of the school's disciplinary climate have been shown to have significance in relation to reports of feeling safe in school. Using survey data from 20 middle level and high schools in Florida, Hammond (2002) measured school climate by students' perceptions of the following: fairness of discipline, consistency of discipline, enforcement of discipline, teacher control over classroom disruption, fairness of grading, teachers' willingness to assist with schoolwork problems, and the perception of caring from teachers for students. Hammond (2002) found that when a school had a positive school climate, students were more likely to report feeling safe, even if the school also had a higher frequency of serious classroom incidents or a higher proportion of disadvantaged students.

Overt aggression is not the only form of aggression that affects the climate of the school. Goldstein, Young, and Boyd (2008) conducted a related study that examined the effects of socially manipulative, interpersonally harmful behavior. This has been referred to as relational aggression. Using a sample of 1,335 middle level and high school students, the researchers found that adolescents exposed to high levels of relational aggression perceived their school to be less safe. Relational aggression is often difficult to measure as students may be less likely to report this behavior. However, it warrants attention in consideration of violence prevention strategies as this type of aggression can serve as the basis for escalation in aggressive responses.

In addition, relational aggression negatively contributes to the social, emotional, and psychological climate of schools (Boxer et al., 2003).

2.4.2 School climate as a safety response and recovery measure

In addition to the benefit of acting as a preventive safety measure, a positive school climate also acts as a safety response and recovery measure. Effective safety responsive measures reduce or prevent injury or death, because people react in a way that is efficient and supportive of the effort of emergency responders.

Recovery planning is another aspect of a comprehensive school safety plan that establishes guidelines for how staff will support students to deal with the subsequent emotions that will be present during the return to normal operations. A positive school climate aids in this aspect of safety recovery following an emergency. Schools with a positive school climate have a staff that is self-aware and can manage their emotions and model this for children in their care during a crisis (Esquith & Osher, 2013). Following a crisis, both students and staff need support to return to normalcy. Nurturing and supportive environments support the process of recovery following a trauma.

2.5 GAPS IN SCHOOL CLIMATE RESEARCH REGARDING SAFETY

There is a great deal of research pointing to the fact that many students do not feel physically and emotionally safe in schools, largely as a result of breakdowns in the interpersonal and contextual variables that define a school's climate (Zhang, et al., 2016). Still, the study of school climate has not been fully explored. The lack of well-defined and research-based models of school

climate has hampered the evaluation of school climate research and also cite the need for research that focuses on actionable interventions to impact school climate (Thapa, et al., 2013). Guerra, Williams & Sadek (2011) recommended that future research examine the mechanisms by which perceptions of school climate influence bullying and victimization across the school years. Studies on youth victimization have focused mainly on the contexts of the family, community, and peer group (Benbenishty, Astor, Zeira, & Vinokur, 2002). When students perpetrate violence in school, the school community is not generally seen as a contributor to problem behavior and is generally viewed as a victim of the aggressive actions attributed to poor mental health or negative family influences on the perpetrator, thus failing to examine the impact of the school environment on student behavior (Hammond, 2002a). The role of the school environment should be questioned as both the educational and social functions of a school influence students' development (Steffgen et al., 2013).

Gottfredson and Gottfredson (2001) studied what schools do to prevent problem behavior and promote safe environments and found that many schools fail to adopt evidence-based programs to promote safety and prevent problem behavior. Recognizing that a complex set of forces shape the quality and character of each school, Cohen et al. (2009) argue that a series of case studies is needed to demonstrate how schools use evidence-based strategies to create a climate for learning. Additional research will help to determine the effects of school-wide behavioral interventions on school climate so that limited resources promote the adoption of best professional practices and the use of evidence-based approaches to reduce disruptive behavior and create a safe and positive school climate (Bradshaw, Koth, Thornton, & Leaf, 2009).

Benbenishty et al. (2002) cited a gap in school violence research regarding the relationship of school variables to students' feelings of violence in school settings and question

whether students respond to the same school environment differently based on characteristics such as race or poverty. Despite the importance of understanding adolescents' fear of crime, very little is known about it, particularly how the factors related to fear vary by race (Bachman et al., 2011). This is especially true when considering the research on differences in student perceptions based on the characteristic of race. For example, Alvarez and Bachman (1997) examined feelings of safety as students went to or from school and found that Black students are more likely to be afraid, while Schreck and Miller (2003) found limited existing evidence of racial disparities in school safety and only differences for males (Lacoe, 2015). The limited, differential evidence of racial disparities in school safety is sensitive to the research method used, especially specification, sample, and modeling (Lacoe, 2015).

2.6 USING CLIMATE DATA TO GUARD AGAINST HEGEMONY

Schools are held accountable for the academic achievement of students but are rarely assessed in terms of non-academic indicators. The *Every Student Succeeds Act* (2015) tasks each state to include a non-academic measure of the organization's success (*S.1177-Every Student Succeeds Act*, 2015). School climate data is one method to gather this information to determine if students feel safe, respected, and experience a sense of belonging to the school. High achieving school districts may find it challenging to raise questions about discrimination and scrutinize social power of subgroups of students, because that power may stem merely from the race or gender of the majority (Wlodkowski & Ginsberg, 1995). It is quite possible that a preponderance of both the staff and administration belong to the majority race and dominant culture. Wlodkowski and Ginsberg (1995) point out that "being socialized and living in the dominant culture often lessens

our awareness that our beliefs and behaviors reflect a particular racial group, ethnic heritage, or gender affiliation" (p.4). Without an intentional effort, bias toward the majority race can be subconscious and occur in implicit ways that appear harmless and result in an environment that fails to encourage divergent points of view and perspectives.

In fact, students of various ages, races and genders may have divergent perceptions of personal safety. The literature lacks a focus on whether students respond to the same school environment differently, and if these differences are systematically related to student characteristics such as race or poverty (Lacoe, 2015). Many studies have been conducted examining the predictors of fear of crime among adults, while fear of criminal victimization among adolescents at school has been practically ignored (May & Dunaway, 2000). It is worth noting that parent reports based on aggregated data from five Gallup polls conducted since 2012 show that a far higher percentage of non-White parents worry about their child's safety at school (40%) than White parents (23%) (McCarthy, 2015).

May & Dunaway (2000) identified important differences between adolescents and adults regarding the effects of race, gender, and victimization. The results from their study indicate that the effects of race and victimization vary by gender. However, Lacoe (2015) conducted a study in urban middle schools and identified gaps in feelings of safety between Black students, Hispanic students, and their White and Asian peers. However Lacoe (2015) reiterated that little is known about how safe students feel at school and how safety varies within schools. Climate data provides a unique opportunity to examine the variation and distinction of the perspectives of students in the racial groups that are represented by a minority population of students and may otherwise be overlooked or even suppressed.

2.7 CONCLUSIONS OF THE REVIEW OF LITERATURE

This review of the literature focuses on school climate as an integral component of a school's safety plan. While there are many favorable outcomes of a positive school climate, this review focused on the aspects that contribute to a safe school. A safe school environment is significantly correlated to school climate as a predictor of student achievement (Osher & Boccanfuso, 2012). Schools that take an objective view of school climate and translate this information into practice increase students' perception of safety and benefit from many other positive outcomes. Intentional management of the climate of the school begins with the selection of a statistically sound school climate measure and a determination of the factors that are the most powerful indicators of a positive school climate. Throughout this review, it was evident that the climate of a school is perceived differently among individuals. The research reviewed is unclear whether student characteristics of race, gender or age affect a student's perception of safety. This gap in the literature regarding student characteristics and the perception of safety led to the research questions listed in Chapter 1. This secondary analysis of school climate data provided an opportunity for examination of the variation of the perspectives of students regarding emotional safety, physical safety and safety from bullying with a focus on differential responses and perspectives as reported by students of different race and ethnicity, gender and grade level band.

3.0 METHODOLOGY

3.1 INTRODUCTION

This study examines safe and supportive school climate, especially as it relates to the perception of safety among students of various races, genders and grade levels. The study is a secondary analysis of data collected in April 2016 in a suburban public school district. This secondary analysis of data evaluated students' perception of emotional safety, physical safety and safety from bullying in the school environment. Additionally, this study examined differences based on student characteristics of race, gender and grade level band of middle school (grades six through eight) and high school (grades nine through twelve). The district also collected survey responses from parents, instructional staff, and non-instructional staff on school climate. For the purpose of this study, only student responses were included in the data analysis.

At the time of the study, 4,649 students were enrolled in grades six through twelve in the district. The demographics of students in the district of study were 82% White, 14% Asian, 2.23% Black, 1.5% Hispanic and 2.8% identifying as two or more races (see Appendix I). The overarching majority of White students led to a concern that the district must guard against sociocultural hegemony and ensure that all students feel safe, regardless of racial identity.

At the time of the study, the district had a comprehensive plan guiding the actions of the organization. The goals in this plan directed resources and energy within the district. One of the

goals was to provide a safe, welcoming, and well-maintained learning environment. In order to determine if students of all races perceived the school environment as safe and supportive, the district sought to measure the school climate.

While many climate surveys were available and considered to measure school climate, the district selected the School Climate Learning Survey (EDSCLS) to gather data on students' perceptions of safety by race, gender, and grade level (see Appendix A). The EDSCLS was selected because it has been rigorously evaluated and refined through several rounds of testing to ensure that the data collection tool produces reliable and valid measures. The development started in 2013 with a review of the existing school climate literature and existing survey items. A technical review panel met in early 2014 to recommend items to be included in the EDSCLS. In the summer of 2014, cognitive interviews were conducted on the draft items in one-on-one settings with 78 individual participants: students, parents, teachers, principals, and non-instructional staff from the District of Columbia, Texas, and California. The draft items were retained, revised, or dropped based on the testing results. The resulting set of items was then pilot tested in 2015. A convenience sample of 43 public schools with a purposive outreach effort to enlist participation of schools that varied across key characteristics (region, locale, and racial composition) participated in the pilot test. The student survey was completed by approximately 17,630 students (*National Center for Education Statistics ED School Climate Surveys (EDSCLS) Appendix D*, 2015).

The goals of the pilot test were to select items that produce high quality item analysis. This was done by identifying item response rates with greater than ten percent nonresponse rates. Additionally, response patterns were analyzed to identify items with low response variation (i.e., where 90% of the responses fell into one response category). A second goal of the pilot was to

create scales that are psychometrically reliable, valid and are generalizable. Cronbach's Alpha was used as a test of reliability to determine how closely related a set of items are as a group. A confirmatory factor analysis was use to evaluate construct validity. A hierarchical factor model was used to fit items in the domain and ensure that they measure the same construct. Point polyserial correlations evaluated the correlation between individual items and the underlying construct. A Rasch analysis with infit and outfit statistics emphasized the extent to which an item's performance matches the expectations of the model to show generalizable validity (Ruddy & Neiman, 2015).

In addition to the robust evaluation of the reliability and validity of the EDSCLS survey, the district of study selected it for use because it was available free of charge from the U.S. Department of Education, Office of Safe and Supportive Learning. While EDSCLS gathered information regarding engagement, safety and the school environment, this study only used a subset of the data collected. The data used was from the domain of safety and included the topic areas of emotional safety, physical safety, and safety from bullying.

3.2 STATEMENT OF THE PROBLEM

This study seeks to inform school leaders regarding students' perception of emotional safety, physical safety, and safety from bullying behavior. At the time of this research, the district of study had already invested in significant improvements in the physical safety of schools, such as the installation of surveillance video devices, procedures to limit access to school buildings and routine checks of the background of visitors. While these measures act as preventive measures from persons coming into the school, they do not address violence perpetrated by students

already within the school building. A positive school climate acts as a preventive measure to violence within the school. However, at the time of the survey, the district of study had not measured school climate or considered this as part of their comprehensive safety plan.

Students' perspectives of their own safety is especially important when considering shifting student demographics. At the time of the study, the majority of students (83%) and staff (97%) in the district of study were White. Between 2008 and 2016, the percentage of White students decreased from 88% to 82.8%. During the same period, the percentage of Asian/Pacific Islander students increased from 10% to 14%. Recognizing that it is difficult for even the most skilled teachers to teach well if they know little about the history and culture of the students they teach (Starnes, 2016), the district sought to create an environment that was culturally responsive to the changing demographic. The feedback gathered through the school climate measurement was intended to support the development of relationships with students of minority racial groups and to promote understanding of cultural nuances, discourse features, logic and rhythm, and role relationships of speakers and listeners (Gay, 2010).

3.3 RESEARCH QUESTIONS

The research questions that guided this study were:

Research Question 1: For questions in each topic area of emotional safety, physical safety and safety from bullying behavior, what was the frequency of responses in each category (strongly disagree, disagree, agree, strongly agree, no response) by race, gender and grade level band?

Research Question 2: Is there an association between the perception of physical safety and student characteristics of race, gender and grade level band?

Research Question 3: Is there an association between the perception of emotional safety and student characteristics of race, gender and grade level band?

Research Question 4: Is there an association between the perception of safety from bullying and n student characteristics of race, gender and grade level band?

Research Question 5: Do students identifying themselves in a racial group that is a minority perceive their overall safety significantly different than students in the majority racial group?

3.4 RESEARCH DESIGN

This study emerged to fill a gap in the literature regarding the relationship around school climate and school safety and students' perceptions of school safety by race, gender, and grade level band. The district of study used a committee approach to evaluate school climate measurement tools and subsequently selected the EDSCLS survey instrument for use to gather knowledge from students related to these concepts. The survey data was collected by the district in spring 2016 and maintained on a dedicated server owned by the district. The researcher requested access to the data and permission to use it for a secondary study and analysis focusing on school climate data as a safety preventive measure. The district approved this use and released the data to the researcher for this specific purpose.

3.4.1 Conceptual Framework

This research relies on an investigative paradigm to consider three interconnected questions. The ontological question considers "What is the structure and type of truth and what can be known

about it," while the epistemological questions is " What can be recognized and known about it," and the methodological question asks "How can the investigator set out to discover what can be known in relation to the issue?" This research is based on a non-positivist approach. Quantitative methods are used, but do not assert an emphasis on impartiality, measurement, objectivity or repeatability (Aliyu, Bello, Kasim, & Martin, 2014).

In fact, this research advocates that there is no universal truth and the investigator must invariably interpret from his own outline of orientation and reference. Impartiality is impracticable and the researcher is a critical realist recognizing that all observation is fallible and has error (Aliyu et al., 2014). The research method used a survey to capture student responses in a particular moment of time, relevant to perceptions of emotional safety, physical safety and safety from bullying behavior. The researcher used a constructivist ontology in with truth is constructed by the observer and considers reality as a social formation or construct of the mind's inner feeling (Creswell, 2004).

Furthermore, this study cannot ascertain the certainty of deductive logic with the quantitative paradigm (Gatta, 2003) that informed this research project, and it does not presume to reach a logically certain conclusion. Instead, the analysis of this data, and comparison of responses from students identifying with various racial and ethnic subgroups, illustrated the complex nature of school climate. In this district of study experiencing shifting racial demographics, the research merely attempts to present findings, sorted and categorized, for some kind of easy reference, for the purposes of contemplation and consideration of additional study (Aliyu et al., 2014).

3.4.2 Survey Instrument

This study is a secondary analysis of the data collected through this district's school climate survey. The district selected the EDSCLS survey tool to collect school climate data due to the reliability and validity of the tool as shown through a pilot study (National Center for Education Statistics ED School Climate Surveys (EDSCLS) Appendix D, 2015). The EDSCLS are a suite of survey instruments being developed for schools, districts, and states by the U.S. Department of Education's (ED) National Center for Education Statistics (NCES). This national effort to study school safety and school climate is an extended the effort of the Safe and Supportive Schools (S3) grant that awarded funds in 2010 from the ED's Office of Safe and Healthy Students (OSHS) to improve school climate. Survey items use a 4-category Likert-type response option set with two negative response options, two positive options, and no neutral category.

The EDSCLS was developed in 2013 after a review of the existing school climate literature led to the creation of survey items in the summer of 2014. Cognitive interviews were conducted on the new and revised items in one-on-one settings with 78 individual participants: students, parents, teachers, principals, and non-instructional staff from the District of Columbia, Texas, and California. Changes to both the survey items and survey platform were made based on these interviews and testing (*School Climate Surveys (EDSCLS) Pilot Test 2015*, 2014).

The EDSCLS instruments provide measures on 13 topics in three domains of engagement (cultural and linguistic competence, relationships, and school participation), safety (emotional safety, physical safety, bullying/cyberbullying, substance abuse, and emergency readiness/management) and the environment (physical environment, instructional environment, physical health, mental health, and discipline). Appendix G is a codebook illustrating the number of questions included in the survey by domain and topic area. This study used a subset

of the data collected in the safety domain. The survey included eight questions regarding physical safety, seven questions regarding emotional safety and seven questions regarding the prevalence of bullying behavior. Safety question stems are included in Appendix F.

Appendix B provides a visual representation of the connection between the EDSCLS survey and the five research questions addressed through this secondary data analysis. Data analysis procedures used for each research question are described below.

3.4.3 Data analysis

This study used quantitative data analysis techniques including descriptive statistics and significance tests to examine the secondary data from the EDSCLS survey. This study uses categorical, independent variables of race, gender and grade level band to compare the explanatory variables of physical safety, emotional safety, safety from bullying behavior and overall safety. The explanatory variables were derived from an interval scale in the school climate survey with a score of: 1 denoting strongly disagree, 2 disagree, 3 agree and 4 strongly agree.

Research Question 1, *What percentage of students responded strongly disagree, disagree, agree, strongly agree, or offered no response for each survey item by race, gender and grade level band?*, was addressed by examining descriptive statistics (frequency, mean, and standard deviation) for seven emotional safety questions, eight physical safety questions and seven questions regarding safety from bullying. These questions are identified in appendix F. A composite safety score was computed from the individual items for emotional safety, physical safety and safety from bullying.

Research Questions two, three and four looked for statistically significant relationships among the independent variables of race, gender and grade level band that were thought to impact students' perception of physical safety, emotional safety and safety from bullying behavior. These three questions were addressed using multiple regression models. Research question two was: *Is there an association between the perception of physical safety and student characteristics of race, gender and grade level band?* Research Question 3 was: *Is there an association between the perception of emotional safety and student characteristics of race, gender and grade level band?).* Research Question 4 was: *Is there an association between the perception of safety from bullying based on student characteristics of race, gender and grade level band?*

Research Question 5, *Do students identifying themselves in a racial group that is a minority perceive their overall safety significantly different than students in the majority racial group?* examined, gaps in students' perception of overall safety by race. This question was of significant interest to the district of study due to the overwhelming majority of one racial group. The district sought to determine whether students in minority racial groups reported a perception of safety similar to students in the majority racial group (White).

This research question used two subgroups. The first subgroup comprised all students identifying themselves as White. The second subgroup of students included all students who did not identify as White as well as students who identified themselves as White in addition to another racial category. Students who did not identify as their race exclusively as White were identified as students belonging to a minority subgroup in the district of study at the time of survey administration.

Research Question 5 was especially important to the district of study due to the aforementioned racial imbalance of students in the district, but it could potentially inform any district seeking to understand student perceptions of safety and question the existence of a sociocultural hegemonic effect.

The data analysis for Research Question 5 planned for an independent samples t-test to determine if a significant difference existed in the means of overall safety score for White students and students in the minority racial group (all other racial groups). The null hypothesis for Research Question 5 was that the perception of overall safety of White students was not significantly different than the perception of safety of students belonging to a minority racial group. The alternative hypothesis was that there are significantly different perceptions of overall safety among White students and students in the minority racial group. An overall composite safety score was computed using the Likert scale from the total 22 questions.

3.5 PARTICIPANTS

This study is a secondary analysis of survey data gathered from a school climate survey offered to the entire population of 4,649 secondary students enrolled in a suburban school district in grades six through twelve. Students enrolled in grades six through twelve were enrolled in five different schools according to their residential address. Parents were notified via an email communication of the district's intent to administer the survey to students. This email communication identified the purpose of the survey, invited parents to preview the questions, and provided a means for parents to opt out of their child's participation (see Appendix C). Students were then presented an opportunity to participate in the electronic survey using school

district devices during social studies class in April 2016. Teachers were trained to act as survey proctors and administered the electronic survey in class from April 11 through May 6, 2016 (see Appendix D). 48.3% of students (n=2410) invited to take the survey were male. 51.7% of students (n=2249) invited to take the survey were female. Students invited to take the survey were 82% White, 2.23% Black, 13.89% Asian, 0.14% American Indian, 2.8% of two or more races and 1.47% Hispanic. 42.5% of invited students (n=1974) enrolled in middle school during the time of survey administration. 57.2% of students invited to take the survey (n=2675) were enrolled in high school.

3.6 DATA COLLECTION

The ED School Climate Survey (EDSCLS) is a suite of surveys provided by the U.S. Department of Education. The surveys are free and designed for districts to download on a dedicated, local server. The district of study installed and configured the survey platform on a local server. The EDSCLS survey tool includes a feature to generate a username with log-in credentials for each participant enrolled in grades six through twelve. The username file generated for participants enrolled in grades nine through twelve included 2,675 randomly generated usernames that equaled the number of participants enrolled in grades nine through twelve. For the purpose of this research, these students were considered in one grade level band of high school students. An additional 1,974 usernames were generated for participants in grades six through eight. For the purpose of this research, these students were considered in one grade level band of middle school students. Using grade level bands as a categorical, independent variable gave the district of study an opportunity to consider student responses based on developmental levels. Data files of

randomly generated usernames did not contain any directly identifying personally identifiable information. Usernames were distributed to each student in grades nine through twelve via a school sponsored Gmail account set up and used regularly for school communications by the school district. The email communication included a link to the school district's dedicated server that presented the survey and collected the survey response information. Participants in grades six through eight received the randomly generated username in school on a slip of paper, because it was noted that school Gmail accounts for participants in grades six through eight were not regularly used for communication purposes by the district of study. The username and survey link was active for participants in grades nine through twelve for a total of fifteen calendar days from April 11 through April 25, 2016. The username and survey link was active for participants in grades six through eight for a total of twelve calendar days from April 25, 2016 to May 6, 2016. The decision to create two distinct survey administration windows was purposeful to allow the school district's technology department to respond to any unforeseen challenges using this online survey tool during the first distribution of the survey. During the active survey administration window, participants had the ability to use the randomly generated password to take the survey one time from any device. However, participants were presented an opportunity to complete the survey during social studies class using school district devices. Each survey proctor used a consistent script to explain the purpose of the survey and presented an opportunity to opt out of the survey. The proctor script is included at Appendix D. Upon logging into the electronic survey, participants were informed that the information collected would not be personally identifiable. The text in the log in screen reiterated the opportunity to opt out of participation (see Appendix E).

3.7 STATISTICAL ANALYSIS PLAN

The independent, categorical variables used in this study are race, gender and grade level band. Race variables are coded as R_1-White, R_2-Black, R_3-Asian, R_4-American Indian, R_5-Native Hawaiian, R_6- Hispanic and R_7-Two or More Races. Gender variables are coded as 1-male and 2-female. Grade level bands variables are coded as 1-middle level (grades six, seven and eight) and 2-high school (grades nine, ten, eleven and twelve).

The dependent, explanatory, continuous variables used in this study were created as a composite from the mean of Likert scale items (1 denoting "Strongly disagree", 2 denoting "Disagree," 3 denoting "Agree," 4 denoting "Strongly Agree"). These composite variables are emotional safety, physical safety, safety from bullying behavior and overall safety. As these composite variables are mean scores, they are not represented as integers and interval variables, but instead take fractional percentages and represent continuous variables.

3.7.1 Missing data analysis

The initial analysis in this study examined missing cases and missing values. Missing data may reduce the precision of the calculated statistics because of the decrease in available data (Schafer, 1999). Noting that the survey was voluntary and students were given the opportunity to opt out of the survey, the first analysis reviewed the percentage of students who volunteered to participate in the survey in high school and in middle school. Next, the demographic characteristics were analyzed to ensure that survey respondents represent the demographic characteristics of the population of students in the district of study. The research focused on subgroups of students with different races, genders and grade level bands (middle school or high

school). Characteristics of survey respondents were analyzed to ensure that they represented the proportion of students enrolled in the district of study by race, gender and grade level. The percentage of students of each race, gender and grade level who elected to participate in the survey were compared to the characteristics of enrolled students in the district of study. The procedure for this analysis is explained in the subsequent section with findings reported in Chapter 4: Statistical Findings.

3.7.1.1 Analysis of Nonresponse bias

The researcher assessed the non-response bias in order to determine an appropriate approach to deal with missing cases and allow for the greatest generalizability of the results to the population of students enrolled in grades six through twelve in the district (Halbesleben & Whitman, 2013). The study of missing data was an important component of the analysis, because the categorical variables of race, gender and grade level were central to the research questions studied. It was essential that the respondents were representative of these categorical variables in order to make generalizations with confidence regarding the population (Blair, 2006).

In order to ensure that survey respondents represented the demographic characteristics of the district of study, a non-response analysis was conducted comparing demographic data of student enrollment in the district to the demographic data of survey respondents. This was an important part of the analysis as nonresponse may affect the validity of the findings (Blair, 2006). The non-response bias used an estimated bias computed from the difference between the percentage of survey respondents for each race, gender and grade level and the percentage of enrolled students in race, gender and grade level. A relative bias was then computed by dividing the percentage of survey respondents by the estimated bias (*EDSCLS*, 2016b). Results were considered with caution and reported whenever an absolute value greater than one was

computed, as they could not be considered as representative of the population of students within the district. Since this analysis focused on subgroups of race, gender and grade level, the relative bias of each subgroup was considered to determine if it fell within the identified standard in order to ensure that the information represented the subgroups of race, gender and grade level within the population of secondary school students in the district of study (see Table 1 in Chapter 4).

3.7.1.2 Analysis of patterns of missing data

A missing data analysis was used ensure randomness of missing values and test to detect patterns and consider the removal of cases where patterns exist. Each quantitative variable representing a survey item was screened for the number of missing values. Missing values that represented less than 2% of the total were considered acceptable (Laerd Statistics, 2015). Little's chi-square test was utilized to test the null hypothesis that there was not a pattern to the missing values. A non-significant p-value, greater than .05 indicated randomness of responses (Hill). Results of this analysis are reported in section 4.1.2.

3.7.1.3 Excluded cases

The next missing value analysis focused on cases considered for exclusion. Survey responses were screened to identify missing variables of race, gender and grade level. These independent variables are central to understanding if differences exist in student perceptions of safety based on the student characteristics of race, gender and grade level. As these variables are essential to the purpose of the study, cases with a missing variable of race, gender and grade level band were removed. These cases are reported in table 2 in Chapter 4.

Cases were also screened for a high number of missing values. Cases with greater than 50% of the items left unanswered were marked for additional analysis. These cases were reported by student characteristics of race, gender and grade level band and are reported in Chapter 4, table 3. Exclusion was considered depending on the effect of removing these cases on the remaining demographic characteristics of the survey respondents.

3.7.2 Descriptive Statistics

The mean and standard deviation of the physical safety, emotional safety, safety from bullying and overall safety for subgroups of students in each race, gender and grade level band were computed to report differences among students of different subgroups.

Research Question 1 explored the descriptive statistics of questions in each topic area (emotional safety, physical safety and safety from bullying behavior) to determine the mean, standard deviation and frequency of responses for each question in each category (strongly disagree, disagree, agree, strongly agree, no response).

3.7.3 Analysis of associations

Research Questions 2, 3 and 4 are similar in that each tests for an association between a continuous dependent variable and three independent variables of race, gender and grade level band. Both gender and grade level band are dichotomous variables, while race/ethnicity is a categorical variable. The three continuous, dependent variables were created as composite variables from the mean of questions in each of the three topic areas of emotional safety, physical safety and safety from bullying behavior. Multiple regression was used to predict the

continuous dependent variable of physical safety, emotional safety and safety from bullying based on multiple independent variables of race, gender and grade level band. These three research questions sought to predict the relative contribution of race, gender and grade level band to the total score for physical safety (Research Question 2), emotional safety (Research Question 3) and safety from bullying (Research Question 4). A regression equation was used to examine the relative importance of each predictor variable on the outcome variables. The regression equations for research questions two, three and four are as follows:

Research Question 2 predicted physical safety $= b_0 + (b_1 \times \text{race}) + (b_2 \times \text{gender}) + (b_3 \times \text{grade level band})$, where b_0 is the intercept and b_1 through b_3 are the slope coefficients (one for each variable).

Research Question 3 predicted emotional safety $= b_0 + (b_1 \times \text{race}) + (b_2 \times \text{gender}) + (b_3 \times \text{grade level band})$, where b_0 is the intercept and b_1 through b_3 are the slope coefficients (one for each variable).

Research Question 4 predicated safety from bullying $= b_0 + (b_1 \times \text{race}) + (b_2 \times \text{gender}) + (b_3 \times \text{grade level band})$, where b_0 is the intercept and b_1 through b_3 are the slope coefficients (one for each variable).

3.7.4 Analysis of differences between groups

Research Question 5 sought to determine whether there were differences between groups. This research question asked if students who identify themselves in a racial group that is a minority perceived their overall safety significantly different than students in the majority racial group. In order to analyze the variance between the dependent variable, safety, and the independent unrelated variable, race, an independent samples t-test was planned. The null hypothesis for Research Question 5 was that the perception of overall safety of students' belonging to the race

of the majority was not significantly different than the perception of safety of students belonging to a minority racial group. The alternative hypothesis was that there were significantly different perceptions of overall safety among students in the majority racial group and those students in the minority racial group. This analysis planned an independent samples t-test to determine if a significant difference existed in the means of overall safety scores for students in the majority racial group (White) and students in a minority racial group (all other racial groups).

4.0 STATISTICAL FINDINGS

4.1 MISSING DATA FINDINGS

All students enrolled in grades six through twelve (n=4649) at the time of the study were invited to participate. Students in grades nine through twelve comprise a larger percentage (57.5%) of the population of students when compared with students in middle school (42.5%) in the district of study. Students in high school had a lower participation rate (76.1%) than students in middle school (90.3%). Overall 830 students (18%) made the decision to opt out. The participation rate is reported in appendix H. Several factors may have contributed to students' decision not to participate fully in the study. This was the first time that the district of study administered a school climate survey to staff, students and parents. Students may not have recognized the relevancy of the data to their own school experience. This lack of investment in the relevancy of the data may explain why students in grade twelve had the lowest participation rate (50.4%). Additionally, students may have selected to opt out in order to use this time set aside during class in order to partake in a more desirable activity using the Internet. It was interesting to note that there were not any parents who indicated that they did not want their child to participate. All students who chose to opt out did so on their own accord when presented with the opportunity by the survey proctor.

4.1.1 Findings of check for randomness of missing values

Responses from 73.8% of enrolled high school students (n=2675) were included and 88.5% of the responses of enrolled middle school students (n=1747) were included. A missing value analysis was performed using SPSS statistical software to evaluate the null hypothesis that missing values did not represent a pattern, but were instead missing completely at random. First univariate statistics for each survey item were reviewed to determine if any items had greater than 2% missing values as this was determined to be an acceptable response rate for individual survey items (Laerd Statistics, 2015). Survey items in both topic areas of physical safety and emotional safety had greater than 98% of values present. However, the review of survey items in the topic area of safety from bullying behavior revealed that one survey item had slightly less than 98% of values. Question #46: "Students often spread mean rumors or lies about others at this school on the internet (i.e., Facebook™, email, and instant message)" had 91 missing values, which indicated that 2.4% of respondents failed to answer this question.

The missing values analysis also included a test to evaluate the null hypothesis that values missing were random and did not represent a pattern. Little's missing completely at random (MCAR) test was used and a non-significant effect (p>.05) was indicated randomness of responses (Hill). A chi-square test of survey items in the topic area of safety from bullying produced significant results, X^2 (1, N =100) = 102.7, p =.407. Therefore the null hypothesis that values missing were random in the topic areas of safety from bullying could not be rejected. This same statistical procedure was used to determine if missing values in the survey items regarding emotional safety were missing completely at random. The chi-square test produced significant results of X^2 (1, N =166) = 132.31, p =.975. Again, the null hypothesis that values missing were random in the topic areas of emotional safety could not be rejected. The chi-square

test of survey items in the topic area of physical safety produced a significant result, X^2 (1, N =183) = 251.29, p =.001. In the test of missing values on survey items representing the topic area of physical safety, the null hypothesis was rejected and it must be assumed that the missing values were not missing completely at random.

4.1.2 Demographic characteristics of survey participants

At the conclusion of the survey administration period, 2,036 surveys were initiated by students in grades nine through twelve using devices owned by the district of study. 604 students did not attempt the survey, as noted by the absence of the usage of the username assigned to the students. These students were considered as opting out of the survey. Additionally, 35 students in grades nine through twelve inputted the username but then selected the option to opt out of the survey or failed to answer any questions or logged out of the survey. The total number of students in grades nine through twelve who opted out of the survey was 639 students.

At the conclusion of the survey administration period, 1,974 surveys were initiated by students in grades six through eight using district-owned devices. One hundred eighty-one students did not attempt the survey, as noted by the absence of the usage of the username assigned to this student. Additionally, ten students in grades six through eight inputted the username but failed to answer any questions on the survey. For the practical purposes of this study, these respondents were considered as opting out of the survey. The total number of students in grades six through eight opting out of the survey was 191 students. Overall, 82% of enrolled students participated in the survey. 76% of enrolled high school students and 90.3% of middle school students participated in the survey.

4.1.3 Nonresponse bias findings

A nonresponse bias analysis was conducted to determine whether or not respondents were representative of the demographic characteristics of the district of study and to assess the potential magnitude of nonresponse bias. The analysis evaluated whether the data, was biased by the missing respondents. The percent of respondents for each subgroup of race, gender and grade level were compared with the percentage of student enrollment for this group. A relative bias greater than the absolute value of one was identified as the criteria to determine if results needed to be interpreted with caution. Table 1 illustrates that no subgroup had a resulting bias greater than the absolute value of one, thus, this nonresponse bias analysis indicated that the survey respondents adequately represented the subgroups of race, gender and grade level of students enrolled in the district of study.

Table 1. Nonresponse Bias Analysis

Subgroups	% of Total Respondents	% of student Enrollment	Estimated Bias	Relative Bias
Male	53.11	52.5	0.61	0.01
Female	46.89	47.50	-0.61	-0.01
White	79.57	81.72	-2.15	-0.03
Black	1.93	2.23	-0.30	-0.16
Asian	10.41	13.89	-3.48	-0.33
American Indian	0.55	0.14	0.41	0.75
Two or more races	3.72	2.80	0.92	0.25
Hispanic	3.72	1.47	2.25	0.60
Grade 6	16.7	14.9	1.8	0.1
Grade 7	15.6	13.5	2.1	.13
Grade 8	14.3	13.7	.6	.04
Grade 9	16.1	14.6	1.5	.09
Grade 10	14.6	14.9	.3	.02
Grade 11	13.7	14.2	-.5	-0.04
Grade 12	8.9	14.7	-5.8	-.65

Source: District of Study Survey Data May 2016

4.1.4 Reporting cases marked for exclusion

Student characteristics were central to this study of student perception of physical safety, emotional safety and safety from bullying. For this reason, students who responded but failed to identify their race, gender or grade level were excluded from the analysis in this research study. Fifty-one cases were excluded from the analysis, because they lacked the identification of an independent variable of race, gender or grade level band. Twenty-five of these excluded cases were middle level students and 26 cases were high school students. These cases (n=51) were excluded from the analysis in this research because they lacked the essential data to determine a relationship of student characteristics (race and gender) to students' perception of safety.

Table 2. Excluded cases due to missing student characteristic

Grade Band/Race	Female	Male	Gender unspecified	Total
High School	11	9	6	26
Black			1	1
Unknown	11	9	1	21
White			4	4
Middle School	6	11	8	25
Asian			1	1
Hispanic			2	2
Unknown	6	11	1	18
White			4	4
Grand Total	17	20	14	51

Additionally, surveys that were submitted with less than 50% of the questions answered were excluded from the analysis. Thirty-six surveys submitted by high school students were excluded according to this criterion. Eleven surveys submitted by middle school students were excluded according to this criterion. The race, gender and grade level band for cases excluded according to this criterion are reported in Table 3. Appendix H shows the response rate after excluded cases were deleted.

Table 3. Cases excluded as a result of greater than 50% questions left unanswered

RACEETH	Gender	Excluded Cases	Gender	Excluded Cases
	Middle School		High School	
White	Male	6	Male	13
	Female	3	Female	11
Black	Male	0	Male	1
	Female	0	Female	0
Asian	Male	1	Male	1
	Female	1	Female	5
Am. Indian	Male	0	Male	0
	Female	0	Female	0
Two or more	Male	0	Male	2
	Female	0	Female	0
Hispanic	Male	0	Male	1
	Female	0	Female	2
Total	Male	7	Male	18
	Female	4	Female	18

4.2 PHYSICAL SAFETY

4.2.1 Physical safety questions

Students responded to eight questions regarding their perception of their physical safety in school. These questions are included in Appendix L. Survey respondents were given four choices to select on a Likert scale: 4 denoting strongly agree, 3 denoting agree, 2 denoting disagree and 1 denoting strongly disagree. Two questions (question 32: "I feel safe at this school"; and question 33: "I feel safe going to and from this school") were presented with the affirmative option representing a stronger perception of physical safety. Six questions (question 34: "I sometimes stay home because I don't feel safe at this school"; question 35: "Students at

this school carry guns or knives to school"; question 36: "Students at this school threaten to hurt other students"; question 37: "Students at this school steal money, electronics, or other valuable things while at school" and question 38: "Students at this school fight a lot") were presented with a negative response of disagree or strongly disagree and represented perceptions of physical safety. These six questions were recoded and transformed so that higher scores represented a stronger perception of physical safety (strongly disagree-1, disagree-2, agree-3, strongly agree-4). Physical safety scores were combined to form a continuous, composite variable representing an overall mean of physical safety. Composite scores were created for students (n=3,700) who responded to six of the eight questions in this topic area (75% of questions presented regarded physical safety). Twenty-one cases were excluded as these respondents failed to answer three or more questions in this topic area. Mean scores above 3.0 were considered as affirmative in that they represented a mean score of students reporting that they reported a perception of physical safety while at school or going to and from school.

4.2.2 Physical safety findings for all students

On average, 85% of students in the district of study reported a positive perception of safety (Appendix L). The questions representing the greatest perception of physical safety included question 35: "Students at this school carry guns or knives to school" (M=3.64, SD=0.641) and question 34: "I sometimes stay home because I don't feel safe at this school" (M=3.61, SD=0.662). The student responses indicate a strong perception of physical safety in the district of study and similar to many schools throughout the U.S. indicates that the schools in this district are a safe haven for students (*Practical Information on Crisis Planning*, 2007). Only one question was scored with an average lower than an affirmative rating of greater than 3.0.

Question 38: "Students at this school damage or destroy other students' property" (M=2.97, SD=0.818). It was also noted that two additional questions were very low affirmative ratings: question 36: "Students at this school threaten to hurt other students" (M=3.04, SD=0.839) and question 37: "Students at this school steal money, electronics, or other valuable things while at school" (M=3.06, SD=0.839).

4.2.3 Physical safety findings by gender

Students' perception of physical safety was slightly stronger for male students (M=3.26, SD=.533) when compared with female students (M=3.25, SD=.501) as illustrated in Table 4.

Table 4. Students' perception of physical safety by gender

Gender	M	N	SD
Male	3.26	1936	.533
Female	3.25	1764	.501
Total	3.26	3700	.518

4.2.4 Physical safety findings by grade level band

Students' perception of physical safety was higher for middle school students (M=3.39, SD=.505) than for high school students (M=3.14, SD=.501) as illustrated in Table 5.

Table 5. Students' perception of physical safety by grade level band

Grade level band	Mean	N	SD
middle school	3.40	1743	.505
high school	3.14	1957	.501
Total	3.26	3700	.518

4.2.5 Physical safety findings by race

When considering students solely by racial identity, all subgroups of students reported a mean score for physical safety greater than 3.0. This is significant, because this indicates an affirmative perception of physical safety by all students regardless of race.

However, it is interesting to note the comparative differences among subgroups of students of different races regarding their perception of safety. American Indian students reported the strongest perception of physical safety (n=32, M=3.52, SD=.402) with students in the Asian racial group reporting the next strongest feeling of physical safety (n=402 M=3.33, SD=.506). White students reported the third strongest perception of physical safety (n=2883 M=3.26, SD=.510). Hispanic students reported a perception of physical safety (n=157, M=3.18, SD=.587) that was lower than the overall average for students of all races (M=3.26, SD=.518). Additionally, Black students and students belonging to two or more races reported the lowest feeling of physical safety with (n=75, M=3.17, SD=.548) and (n=149, M=3.13, SD=.631) respectively. Schreck & Miller (2003) reported a similar finding that of all racial groups,

Hispanics had a significantly greater chance of being worried than White students, while Black students were significantly more worried about robbery,

Table 6. Perception of Physical Safety as Reported by Students of Different Races

Race	Mean	SD	N
White	3.26	.508	2883
Black	3.17	.548	75
Asian	3.33	.505	402
American Indian	3.52	.402	32
Two or More Races	3.13	.631	149
Hispanic	3.18	.587	157
Total	3.26	.518	3700

4.2.6 Physical safety findings by race, gender and grade level band

The district of study was particularly interested in the subgroups of students in different racial, gender and grade level band subgroups. Composite physical safety scores, which represented a mean of the eight items in the topic area of physical safety were examined for students in subgroups represented by race/ethnicity, gender and grade level band. The relative means is reported as it compares to all students responding to the survey.

Two subgroups reported a physical safety score that was comparatively lower than the physical safety of other subgroups: Black female high school students, Hispanic male high school students and students identifying with two or more races in both middle school and high school. Black female high school students reported a physical safety score lower than 3.0 (M=2.95, SD=0.425). Black females in high school scored lowest on four questions; question 36: “Students at this school threaten to hurt other students” (M=2.61, SD=0.698), question 37:

"Students at this school steal money, electronics or other valuable things at school" (M=2.5, SD=0.786), question 38: "Students at this school damage or destroy other students' property" (M=2.67, SD=0.686) and question 39: "Students at this school fight a lot" (M=2.89, SD=0.676). These four questions were also scored with the lowest mean for all students responding to the survey (see Appendix L).

Additionally, Hispanic male high school students reported a physical safety score lower than 3.0 (M=2.97, SD=.642). Hispanic male high school students scored lowest on two questions; question 37: "Students at this school steal money, electronics, or other valuable things while at school" (M=2.56, SD=.934) and question 38: "Students at this school damage or destroy other students' property" (M=2.55, SD=.926). Upon examination of the mean scores for each question in the topic area of physical safety for Hispanic males in high school, it was interesting to note that this subgroup was the only subgroup that reported a less than affirmative score for questions directly indicating a perception lacking safety. On question 32: "I feel safe at this school" (M=2.98, SD=0.731), Hispanic males in high school scored lower than all students responding (M=3.28, SD=0.689). On question 33: "I feel safe going to and from this school" (M=2.98, SD=0.876), Hispanic males in high school scored lower than all students responding (M=3.33, SD=0.651).

Additionally, both male (M=3.01, SD=0.749) and female (M=3.06, SD=0.584) high school students with two or more racial categories scored comparatively lower than students in other racial subgroups. These students scored lowest on three questions; question 36: "Students at this school threaten to hurt other students," question 37: "Students at this school steal money, electronics or other valuable things at school," and question 38: "Students at this school damage or destroy other students' property." This finding indicates students' concern with respect for

property and indicates that the school has not created an environment for these students in which they perceive their property to be safe and free from damage. Gottfredson (2005) emphasizes that school policies and interventions do appear to have an influence on the safety of a school, more positive psychosocial climates should reduce school crime.

4.2.7 Association of race, gender, grade level to physical safety

Research Question 2 asks if there is an association between physical safety and student characteristics of race, gender and grade level. In order to test for this association, a multiple regression model was applied using SPSS software. Assumptions were checked for this model. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. The Durbin-Watson statistic of .356 did not indicate independence of residuals; however, the design of the study with students independently responding with a unique and randomly generated survey code provided confidence that the assumption of independence was satisfied. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were 46 studentized deleted residuals greater than ±3 standard deviations. However, there were no leverage values greater than 0.2, or values for Cook's distance above one (Cook & Weisberg, 1982). The assumption of normality was met, as assessed by Q-Q Plot.

The regression model resulted in a statistically significantly better prediction of the dependent variable of physical safety, $F(3,3696)=80.46$, $p<.001$ than if the means of the independent variables of race, gender and grade level band were used. A small effect size, adjusted $R^2= 0.061$ demonstrated that the addition of the independent variables of race, gender

and grade level band into a regression model explained 6.1% of the variability of the dependent variable, physical safety, as compared to the mean model (Cohen, 1988). Regression coefficients and standard errors can be found in Table 7.

Table 7. Summary of Multiple Regression Analysis for Physical Safety

Variable	B	SE_b	B	T	p
Intercept	3.691	.038		97.24	.000
Race	-,014	.005	-.043	-2.709	.007
Gender	-.013	.017	-.013	-..796	.426
Grade Band	-.255	.017	-.246	-15.41	.000

Note. *p<.05; B = unstandardized regression coefficient; SE_b = Standard error of the coefficient; β = standardized coefficient

The beta coefficient corresponding to race was negative and significant t= - 2.709, p<.05. This indicates that the perception of physical safety was associated with a decrease for students who are not White. The beta coefficient corresponding to gender was not significant t= -0.796, p=.426, indicating that there was not an association between the gender of a student and their perception of physical safety. The beta coefficient for grade level band was negative and significant t= -15.41, p<.001. This indicated that the perception of physical safety as reported by middle school students (M=3.39, SD=0.505) was associated with a decrease in the perception of physical safety as reported by high school students (M=3.14, M=.501).

4.2.8 Statistical interpretation-physical safety findings

On average 85% of students in the district of study reported a positive perception of physical safety indicating that the district of study is a safe haven for students (*Practical Information on Crisis Planning*, 2007). We know that simply focusing on reducing the frequency of serious

classroom incidents will not guarantee that students will feel safe. Rather, findings indicate that positive climate factors need to be an integral part of any effort to improve school safety However, there are indicators that not all students feel equally safe and that these differences may be related to the racial identity of students. Both Black female high school students and students belonging to two or more races reported a lower perception of physical safety when compared to all students. It is interesting to note that both groups reported the lowest mean scores on the same four questions when compared to all students. Both subgroups responded to question 36: "Students at this school threaten to hurt other students;" question 37: "Students at this school steal money, electronics, or other valuable things while at school;" question 38: "Students at this school damage or destroy other students' property" and question 39: "Students at this school fight a lot," lower than the mean for all students on this the district of study. This information may prompt the district to gather additional qualitative data from students in order to determine the information that should prompt action.

Hispanic males in high school scored notably lower on two questions that indicate fear of physical harm when compared with the responses of all students in the district of study. When responding to question 32: "I feel safe at this school, Hispanic males in high school" (M=2.98, SD=.731) reported a lower mean score than all students (M=3.28, SD=.689). Additionally, Hispanic males in high school responded to question 33: "I feel safe going to and from this school" (M=2.98, SD=.876) lower than the mean score of all students (M=3.33, SD=.651). This is notable as it represents a basic and direct representation of physical safety while at school and is similar in the finding that persistent racial and ethnic gaps exist in students' perception of school safety (Lacoe, 2015).

These differences seem to suggest an association between physical safety and race, and Research Question two sought to determine if this association between the student characteristics of race, gender and grade level exists when predicting students' perception of physical safety. While the multiple regression analysis found a negative and significant association between both race and gender, the effect size of 6.1% was minimal. This indicates that students who are not White were associated with a lower perception of physical safety when compared to White students. Grade level band was also found to have a negative and significant association, which indicated that students in high school had a lower perception of physical safety when compared to students in middle school. While the effect size is small, the findings around high school students who are Black females, Hispanic males and students belonging to two or more races warrant additional consideration to determine how to increase their perception of physical safety.

4.3 EMOTIONAL SAFETY

4.3.1 Emotional safety questions

The survey included seven questions regarding students' perception of emotional safety. These questions are included in Appendix J. Likert scale scores from the seven questions were combined to form a continuous, composite variable representing an overall mean of emotional safety. Composite scores were created for students (n=3,699) who responded to five of the seven questions in this topic area (71% of questions presented regarding emotional safety). Twenty-two cases were excluded, because respondents failed to answer three or more questions in this topic area of emotional safety. Mean scores above 3.0 were considered affirmative in that they

represented students reporting that they agree or strongly agree that they experience a feeling of emotional safety while at school.

4.3.2 Emotional safety findings for all students

On average 70% of all students in the district of study reported a positive perception of emotional safety (Appendix J). The highest mean score on questions in the emotional safety category was question 29: "I am happy to be at this school" (M=3.11, SD=0.840). Four questions in the category of emotional safety scores for the district of study were rated lower on average than affirmative (greater than 3.0) for all students; question 25: "I feel like I belong" (M=2.98, SD=0.794), question 26: "Students at this school get along well with each other" (M=2.82,SD=0.704), question 27: "At this school, students talk about the importance of understanding their own feelings and the feelings of others" (M=2.30, SD=0.835) and question 28: "At this school, students work on listening to others to understand what they are trying to say" (M=2.50, SD=0.774). Two additional questions were rated very low affirmative on average; question 31: "I feel socially accepted" (M=3.01, SD=0.776) and question 30: "I feel like I am part of this school" (M=3.05, SD=0.760).

4.3.3 Emotional safety findings by gender

Male students had an overall greater perception of emotional safety (n=1934, M=2.89, SD=.580) than female students (n=1765, M=2.75, SD=.584).

Table 8. Students' perception of emotional safety by gender

Gender	Mean	N	SD
Male	2.89	1934	.580
Female	2.75	1765	.584
Total	2.83	3699	.586

4.3.4 Emotional safety findings by grade level

Middle school students had an overall greater perception of emotional safety (n=1737, M=2.91, SD=.598) than high school students (n=1962, M=2.83, SD=.586).

Table 9. Students' perception of emotional safety by grade level band

Grade level band	Mean	N	SD
middle school	2.91	1737	.598
high school	2.75	1962	.567
Total	2.83	3699	.586

4.3.5 Emotional safety findings by race

A perception of emotional safety was highest for American Indian (n=32, M=3.16, SD=.49) and Asian students (n=404, M=2.88, SD=.558). White students reported the third strongest feeling of emotional safety (n=2899, M=2.83, SD=.580), Hispanic students reporting fourth strongest (n=157, M=2.77, SD=.612), and students of two or more races and Black students reported the lowest feeling of emotional safety (n=149, M=2.65, SD=.706) and (n=77, M=2.63, SD=.595), respectively.

Table 10. Perception of Emotional Safety as reported by students of different races

Race	Mean	SD	N
White	2.83	.579	2883
Black	2.63	.595	77
Asian	2.87	.557	400
American Indian	3.16	.493	32
Two or More Races	2.65	.706	149
Hispanic	2.77	.614	156
Total	2.83	.586	3699

4.3.6 Emotional safety findings by race, gender and grade level

The district of study was particularly interested in the perceptions of emotional security among subgroups of students in different racial, gender and grade level bands. Emotional safety scores of students in these subgroups were examined to explore the relative means in comparison to all students responding to the survey. Emotional safety was rated as less than affirmative for all subgroups with the exception of male American Indian students in middle school (M=3.36, SD=0.404) and female American Indian students in middle school (M=3.23, SD=0.555). Emotional safety scores were significant in that all racial subgroups, with the exception of American Indian students, scored below the affirmative mean of 3.0, indicating a concern with the perception of emotional safety at school (see Appendix K).

4.3.7 Association of emotional safety to race, gender and grade level

In order to find the association between student characteristics of race, gender and grade level band and students' perception of emotional safety, a multiple regression model was applied using

SPSS software. Assumptions were checked for this model. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. The Durbin-Watson statistic of 0.439 did not indicate an independence of residuals; however, the design of the study with students independently responding with a unique and randomly generated survey code provided confidence that this assumption of independence was satisfied. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were 26 studentized deleted residuals greater than ±3 standard deviations. However, there were no leverage values greater than 0.2, or values for Cook's distance above 1. The assumption of normality was met, as assessed by Q-Q Plot.

The multiple regression model statistically significantly predicted emotional safety. All three independent variables of race, gender and grade level band statistically significantly predicted emotional safety, $F(3,3695)=41.82$, $p<.001$, adj. $R^2=0.032$. Regression coefficients and standard errors can be found in Table 11.

Table 11. Summary of Multiple Regression Analysis for Emotional Safety

Variable	B	SE_b	B	T	p
Intercept	3.301	.044		75.69	.000
Race	-.016	.006	-.044	-2.67	.007
Gender	-.142	.019	-.121	-7.50	.000
Grade Band	-.156	.019	-.133	-8.18	.000

Note. *p<.05; B = unstandardized regression coefficient; SE_b = Standard error of the coefficient; β = standardized coefficient

The beta coefficient corresponding to race was negative and significant t=--2.67, p<.05. This indicates that the perception of emotional safety as reported by students who were not White was associated with a decreased perception of emotional safety of 0.16 in comparison

with White students (M=2.83, M=.580). The association between the student characteristics of gender and students' perception of emotional safety was negative and significant (t=-7.50, p<.001), indicating that the perception of emotional safety of male students (M=2.89, SD=.580) was associated with an increase of .142 when compared with the emotional safety of female students (M=2.75, SD=.584). The association between grade level band and students' perception of emotional safety was negative and significant (t=-8.18, p<.001). This indicates that students in middle school (M=2.91, SD=.598) were associated with a .156 higher score for emotional safety than high school students (M=2.75, SD=.567).

4.3.8 Statistical interpretation of emotional safety findings

Thirty students in the district of study failed to report a positive perception of emotional safety. Specific areas of concern were indicated by a sense of belonging that was absent among students and a belief that students lack empathy and understanding for each other. 60% of students disagreed with the statement that students in the district talk about the importance of understanding their own feelings and the feelings of others (question 27) and 53% of students disagreed that students listen to what others try to say (question 28). High school students identifying as Black, Hispanic and of two or more races reported the lowest perception of safety. These findings point to a need in the district to promote social emotional competencies through self-awareness and the ability to understand and manage individual response to stress. By helping students understand themselves and pay attention to own needs, they will also increase their empathy to respond to the needs of others (Esquith, D. Osher, 2013b).

4.4 SAFETY FROM BULLYING

4.4.1 Safety from bullying questions

The category, safety from bullying, included seven questions on the survey (see Appendix N). High school students responded to all seven questions (see Appendix N). Middle school students responded to the same questions, with the exception of question 43: "Students at this school are teased or picked on about their real or perceived sexual orientation". In the design of the EDSCLS survey, this question was not intended for middle school students, and was omitted on the survey given to these students. One question (question 45: Students at this school try to stop bullying) was presented with an affirmative selection indicating agreement representing a perception of safety from bullying. Six questions were presented with an affirmative selection indicating agreement and representing a perceived lack of safety from bullying (question 40: "Students at this school are teased or picked on about their race or ethnicity"; question 41: "Students at this school are teased or picked on about their cultural background or religion;" question 42: "Students at this school are teased or picked on about their physical or mental disability;" question 43: "Students at this school are teased or picked on about their real or perceived sexual orientation [high school only];" question 44: "Students at this school are often bullied" and question 46: "Students often spread mean rumors or lies about others at this school on the internet). These six questions were recoded and transformed so that higher scores represented a stronger perception of physical safety (strongly disagree-1, disagree-2, agree-3, strongly agree-4).

Composite scores were created for students (n=3,689) who responded to four of the six questions in this topic area for middle school students (67% of questions presented regarding

safety from bullying) and four of the seven questions in this topic area for high school students (57% of questions presented regarding safety from bullying). Thirty-two cases were excluded according to this criterion for the topic area of safety from bullying.

4.4.2 Safety from bullying findings for all students

Overall 66% of students in the district of study reported a positive perception of safety from bullying behavior. Likert scale scores were combined to form an overall mean of safety from bullying. Mean scores above 3.0 were considered affirmative of students' perceptions of safety from bullying at school.

Students reported the strongest perception of safety from bullying when responding to question 41: "Students at this school are teased or picked on about their cultural background or religion" (M=3.14, SD=.810). Students also scored in the affirmative range, greater than 3.0, on question 40: "Students at this school are picked on about their race or ethnicity" (M=3.11, SD=.829) and question 42: "Students at this school are teased or picked on about their physical or mental disability" (M=3.07, SD=.883).

Four of the seven questions in the category of safety from bullying for the district of study failed to receive an affirmative mean score (greater than 3.0). The question receiving a score less than 3.0 included question 43: "Students at this school are picked on about their real or perceived sexual orientation" (M=2.77, SD=0.869). This question was presented exclusively to high school students. Three additional questions in the safety from bullying category received an overall score that failed to meet the affirmative total mean score greater than 3.0: question 44: "Students at this school are often bullied" (M=2.92, SD=0.781), question 45: "Students at this

school try to stop bullying" (M=2.72, SD=0.786) and question 46: "Students often spread mean rumors or lies about others at this school on the internet" (M=2.55, SD=0.927).

4.4.3 Safety from bullying results by gender

Students' perception of safety from bullying was higher for males (M=2.96, SD=.615) than for females (M=2.87, SD=.595).

Table 12. Perception of safety from bullying as reported by students of different genders

Gender	Mean	N	SD
Male	2.96	1929	.615
Female	2.87	1760	.595
Total	2.92	3689	.607

4.4.4 Safety from bullying by grade level band

Middle school students reported a greater perception of safety from bullying (M=3.06, SD=.619) than students in high school (M=2.79, SD=.566).

Table 13. Perception of safety from bullying as reported by students by grade level band

Grade level band	Mean	N	SD
middle school	3.06	1737	.619
high school	2.79	1952	.566
Total	2.92	3689	.607

4.4.5 Safety from bullying by race

American Indian students in the district of study reported the highest score for safety from bullying (n=32, M=3.08, SD=.600), and White students reported the next strongest feeling of safety from bullying (n=2880, M=2.93, SD=.594). Asian students reported the third strongest feeling of safety from bullying (n=402, M=2.91, SD=.632). This mean was slightly lower than the average for all students (n=3689, M=2.92, SD=.607). Hispanic students (n=154, M=2.87, SD=.682), Black students (n=73, M=2.84, SD=.570) and students belonging to two or more races (n=146, M=2.73, SD=.686) reported mean perceptions of safety from bullying lower than the mean among students of all racial groups as reported in Table 14.

Table 14. Perception of safety from bullying as reported by students of different races

Race	Mean	SD	N
White	2.93	.594	2880
Black	2.84	.570	73
Asian	2.91	.632	402
American Indian	3.08	.600	32
Two or More Races	2.73	.686	146
Hispanic	2.87	.682	154
Total	2.92	.607	3689

4.4.6 Safety from bullying by race, gender and grade level band

The district of study was particularly interested in the subgroups of students in different racial, gender and grade level band subgroups. Safety from bullying scores of students in these subgroups were examined to explore the relative means in comparison to all students responding

to the survey. Both male and female high school students reported a lower perception of safety from bullying when compared to middle school students. Regardless of gender or racial group, high school students reported a lower perception of safety than their counterparts in middle school (see Appendix O). For example, White males in middle school (M=3.14, SD=0.600) reported a higher perception of safety from bullying than White males in high school (M=2.86, SD=0.570). This was true when comparing each subgroup by race and gender between grade level bands of middle school and high school. American Indian males in high school rated safety from bullying with the lowest mean score (M=2.39, SD=.457). Black female students in high school also rated their perception of safety from bullying low (M=2.63, SD=.490). Students in the racial subgroup of two or more races reported a comparatively low mean score for safety from bullying for both high school (M=2.68, SD=0.701) and middle students (M-2.78, SD=0.673).

Hispanic male students in high school (n=44) responded with the lowest score to question 46: "Students often spread mean rumors or lies about others at this school on the internet" (M=2.36, SD=.942). It is important to note that this question was scored lowest by all students (M=2.55, SD=.927). Hispanic male students in high school responded to question 45: "Students at this school try to stop bullying" (M=2.64, SD=.838) with a lower mean score than all other students (M=2.72, SD=.786). Additionally, Hispanic male students in high school responded to question 40: "Students at this school are teased or picked on about their race or ethnicity" (M=2.59, SD=.844) lower than all other students (M=3.11, SD=.829).

Hispanic female students in high school also reported low scores in the topic area of safety from bullying. However, the questions rated comparatively low were different than those scored low for Hispanic male students in high school. For this reason, the examination of

responses by Hispanic females in high school is reported separately from Hispanic males in high school.

Hispanic female students in high school reported the lowest score for question 46: "Students often spread mean rumors or lies about others at this school on the internet" (M=1.96, SD=.706). It is important to note that this question was scored lowest by all students (M=2.55, SD=.927). Hispanic female students in high school also reported a low score for question 45: "Students at this school try to stop bullying" (M=2.48, SD=.802) in comparison with all students responding to this question (M=2.72, SD=.786). Finally, Hispanic female students in high school reported a notably low score for question 44: "Students at this school are often bullied" (M=2.69, SD=.788) in comparison with all other students (M=2.92, SD=.781).

Male and female high school students belonging to two or more races reported a comparatively low perception of safety from bullying. Upon examination, students in this subgroup scored lowest on four questions. Noting that both male and female students in this subgroup of high school students belonging to two or more races scored low on similar questions, the results of both genders are combined and reported together. High school students belonging to two or more races reported the lowest score for question 46: "Students often spread mean rumors or lies about others at this school on the internet" (M=2.38, SD=.978). It is important to note that this question was scored lowest by all students (M=2.55, SD=.927). High school students belonging to two or more races responded to question 45: "Students at this school try to stop bullying" (M=2.57, SD=.783) with a lower mean score than all students responding (M=2.72, SD=.786). Similar to Hispanic males in high school, students belonging to two or more races responded to question 40: "Students at this school are teased or picked on about their race or ethnicity" (M=2.65, SD=.972) lower than all students responding to this

question (M=3.11, SD=.829). This is notable for the district of study, because both groups represent a racial minority in the district of study and this question illustrates a direct indication of their perception of acceptance of racial and ethnic differences in the school environment.

4.4.7 Association of safety from bullying

In order to find the association between student characteristics of race, gender and grade level band and students' perception of safety from bullying, a multiple regression model was applied using SPSS software. Assumptions were checked for this model. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. The Durbin-Watson statistic of .772 did not indicate an independence of residuals, however the design of the study with students independently responding with a unique and randomly generated survey code, provided confidence that this assumption of independence was satisfied. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were 26 studentized deleted residuals greater than ±3 standard deviations. However, there were no leverage values greater than 0.2, or values for Cook's distance above 1(Cook & Weisberg, 1982). The assumption of normality was met, as assessed by Q-Q Plot.

The multiple regression model statistically significantly predicted safety from bullying. $F(3,685)=80.86$, $p<.001$, adj. $R^2=0.061$. All three variables (race, gender, grade level band) added statistically significantly to the prediction, $p<0.05$. Regression coefficients and standard errors can be found in Table 15.

Table 15. Summary of multiple regression analysis for safety from bullying

Variable	B	SE_b	B	t	p
Intercept	3.534	.045		79.26	
Race	-.024	.006	-.064	-4.00	.000
Gender	-.097	.019	-.079	-4.98	.000
Grade Band	-.282	.019	-.232	-14.51	.000

Note. *p<.05; B = unstandardized regression coefficient; SE_b = Standard error of the coefficient; β = standardized coefficient

The beta coefficient corresponding to the race was negative and significant (t= -4.00, p<.001). This indicated that the perception of safety from bullying as reported by students who were not White was associated with a slight decrease of .024 in students' perception safety from bullying who were not White (M=2.83, SD=.580).

The beta coefficient corresponding to the gender of students was negative and significant (t= -4.98, p<.001) indicating that the perception of safety from bullying as reported by males (M=2.96, SD=.615) was associated with a slight decrease of .097 in female students (M=2.87, SD=.595).

The beta coefficient corresponding to the grade level band of students was negative and significant (t= -14.51, p<.001). This indicated that the perception of safety from bullying as reported by middle school students (M=3.06, SD=.619) was associated with a decrease of .282 in high school students' perception safety from bullying (M=2.79, SD=.566).

4.4.8 Statistical interpretation of safety from bullying behavior

34% of students in the district of study failed to report a positive perception of safety from bullying behavior. Students reported the lowest score on question 46: "Students often spread mean rumors or lies about others at this school on the internet" (M=2.55, SD=.927).

Cyberbullying and harassment are prevalent across the United States. Throughout the nation, one of three adolescents reports being seriously threatened online, and 60% of teens say they have participated in online bullying (Thapa et al., 2013). This is an area that the district should consider to determine the effectiveness of existing programs.

Question 43 ("Students at this school are teased or picked on about their real or perceived sexual orientation") also failed to receive a positive mean score. This low score may shine a light on the possibility of a hostile school climate for lesbian, gay, bisexual, and transgender (LGBT) youth and warrants additional consideration by the district of study (J. Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2011).

Knowing that the district seeks to create an environment in which students are safe from bullying regardless of race, gender or grade level, differential perceptions of safety from bullying by students in various subgroups is an important topic for consideration. Female students reported a lower perception of safety (M=2.87, SD=.595) compared to male students (M=2.96, SD=.615).and this may indicate that fear affects males and female adolescents differently (May & Dunaway, 2000). High school students (M=2.79, SD=.566) reported a lower perception of safety from bullying compared to middle school students (M=3.06, SD=.619). This may indicate that the middle school environment is supportive and meeting the developmental needs of young adolescents. Alternately, it may signal an indication that the high school environment is not a culture that students are caring and supportive toward each other.

Similar to the findings of emotional safety and physical safety, the same three subgroups are notable for the comparatively lower report of safety from bullying behavior. Black female high school students, both male and female Hispanic high school students and male and female high school students belonging to two or more races. This may indicate that an imbalance of

power between students in majority and minority races exists within the district. This may result from a significantly smaller number of enrolled Black, Hispanic and students of two or more races in the district. In fact, the School Crime Supplement of the National Crime Victimization Survey reported that Black students attending school in suburban areas where they represent a minority of enrolled students were more fearful compared to Black students attending school in urban areas (R. Bachman et al., 2011). The district may want to consider an intervention targeted to these racial groups to explore these differences and consider how to increase the safety from bullying for these students.

Research Question 4 sought to determine if an association between the student characteristics of race, gender and grade level band existed when predicting students' perception of safety from bullying. This study found a negative and significant association between all three characteristics of race, gender and grade level band and perception of safety from bullying. However, it was noted that there was a small effect size of 6.1%. This indicates that students who were not White were associated with a lower perception of safety from bullying when compared to White students. Grade level band was also found to have a negative and significant association, which indicates that students in high school had a lower perception of safety from bullying when compared to students in middle school. While the effect size was small, the findings around particular subgroups of high school students who were Black females, all Hispanic students and students' belonging to two or more races warrant additional consideration to determine how to increase their perceptions of safety from bullying.

4.5 OVERALL SAFETY

4.5.1 Composite variable construction- overall safety

The safety categories of physical safety, emotional safety and safety from bullying included 22 questions. Question 43: "Students at this school are teased or picked on about their real or perceived sexual orientation" was presented exclusively to high school students in the category of emotional safety. In order to gauge an overall perception of safety that included students' perception of physical safety, emotional safety and safety from bullying, a composite variable of overall safety was created. The continuous, dependent variable of overall safety was a composite variable created from the mean of Likert scale responses from each of the 22 questions regarding topic areas of emotional safety, physical safety and safety from bullying. This variable was created for each respondent who answered at least 17 of the 22 questions presented in these topic areas (n=3678). Forty-three cases were excluded because the respondent answered less than 77% of the questions on the survey. Excluded cases represented no more than six percent of each racial group. Excluded cases are reported in Table 16.

Table 16. Excluded cases of overall safety by race

	Valid Cases		Excluded Cases	
	N	Percent	N	Percent
White	2870	99.0	30	1.0
Black	73	94.8	4	5.2
Asian	400	99.0	4	1.0
Am_Indian	32	100.0	0	0.0
Two or more	145	97.3	4	2.7
Hispanic	156	99.4	1	0.6

A mean overall safety score for each of these respondents was created to represent a student's perception of overall safety. The overall mean safety score was not created from the mean of emotional safety, physical safety and safety from bullying, but rather from the scores of each individual question.

4.5.2 Overall safety findings by gender

Male middle school students reported a stronger perception of overall safety when compared to female middle school students. Similarly, male high school students reported a stronger perception of overall safety when compared to female high school students.

Table 17. Perception of overall safety as reported by students of different genders

Gender		Mean	N	SD
Male	Middle School	3.17	783	.494
	High School	2.97	969	.470
Female	Middle School	3.13	758	.484
	High School	2.86	862	.434

4.5.3 Overall safety findings by grade level

Male high school students in each racial subgroup reported a lower perception of overall safety than their counterparts in middle school. For example, White males in middle school (M=2.92, SD=0.54) reported a higher perception of safety from bullying than White males in high school (M=2.90, SD=0.33). Similarly, female high school students in each racial subgroup reported a lower perceptions of overall safety than female middle school students in the same subgroup.

4.5.4 Overall safety findings by race

Students who identify as Black, Hispanic and belonging to two or more races reported the lowest perception of overall safety in comparison to other students in the district of study. These same subgroups also reported comparatively low perception of emotional safety, physical safety and safety from bullying. Students belonging to these subgroups are in the minority with Hispanic students representing 4% of the student body, Black students 2% and students identifying as two or more races.

Table 18. Perception of overall safety as reported by students of different races

Race	Mean	SD	N
White	3.02	.478	2870
Black	2.89	.468	73
Asian	3.05	.490	400
American Indian	3.27	.409	32
Two or More Races	2.86	.584	145
Hispanic	2.95	.542	156
Total	3.02	.488	3678

4.5.5 Overall safety findings by race, gender and grade level

The district of study was particularly interested in the perception of safety as reported by subgroups of students in different racial, gender and grade level band subgroups. Overall safety scores of students in these subgroups were examined to explore the relative means in comparison to all students responding to the survey. The highest overall safety scores were reported by American Indian students (M=3.27, SD=0.409), Asian students (M=3.05, SD=0.490) and White students (M=3.02, SD=0.478). The lowest overall safety scores were reported by students of two or more races (M=2.86, SD=0.584), Black students (M=2.89, SD=0.468) and Hispanic students (M=2.95, SD=0.5542). When considering students in different grade level bands, middle school students reported a higher perception of overall safety (M=3.14, SD=.490) than high school students (M=2.91, SD=.459).

4.5.6 Differences in overall safety between students who identify with the majority racial group and students who do not identify with the majority racial group

Research Question 5 sought to determine if there were differences in students' perception of overall safety based on race. Specifically, students in the district of study were assigned to two categorical, independent groups. One group represented students self-reporting as White. At the time of survey administration (May 2016), this was the subgroup representing a majoirty of students (n=2,635, 82%). The second group of students represented all students self-reporting as non-White. These students identified themselves as Black, Asian, American Indian, Hawaiian, Hispanic or two or more races. Students in the minority subgroup (n=737, 22%) represented all students not in the White subgroup at the time of survey administration.

An independent samples t-test was planned to determine if there were differences in students' overall perception of safety between students in these two groups. However, the assumption of normality was violated, as assessed by Shapiro-Wilk's test ($p<.01$). Some deviation away from normality does not have a large influence on Type I error rates, with the exception when the ratio of the smallest to largest group size is greater than 1.5 of the smaller group size (Lund, 2015). In this study, students in the majority racial group (n=2.635) represented more than 1.5 times the quantity of students in the minority racial group (n=737). The Mann-Whitney U test was selected for use as a nonparametric alternative to the independent samples t-test, due to the failed assumptions of normality and the large difference in the sizes of the groups ("Mann-Whitney U test using SPSS Statistics. Statistical tutorials and software guides," 2015).

Distributions of the safety scores for both groups were similar as assessed by visual inspection. Median scores representing students' overall perception of safety were not statistically significantly different between students in the majority racial group (Mdn=3.05, SD=.477) and students in a minority racial group (Mdn=3.05, SD=.517), U=958582.00, Z=-.532 p=.595. The p value is greater than .05 and indicates that the median differences between groups are not statistically significant, therefore we cannot reject the null hypothesis that the perception of overall safety is different between the group of students beloning to the racial group in the majority and the group of students belonging to the racial group of students in the minority.

4.5.7 Statistical findings related to overall safety

Research Question 5 tested the hypothesis that students in the White racial group representing the majority of students (n=2635) perceived their overall safety the same as students who are not

White. These students identified themselves as Black, Asian, American Indian, Hawaiian, or belonging to two or more races (n=737). The Mann-Whitney U test was used due to the failed assumption of normality and the large difference in group sizes ("Mann-Whitney U test using SPSS Statistics. Statistical tutorials and software guides," 2015). The test found that median scores representing students' overall perception of safety were not statistically significantly different between students in the majority racial group (Mdn=3.05, SD=.477) and students in a minority racial group (Mdn=3.05, SD=.517), U=958582.00, Z=-.532 p=.595. The p value greater than .05 and indicated that the median differences between groups were not statistically significant, therefore the null hypothesis cannot be rejected. This indicates that the perception of overall safety is not different between the group of students beloning to the racial group in the majority and the group of students belonging to the racial group of students in the minority. This may illustrate that the district of study has adequately met the needs of students of all races and may provide some reassurance that a hegemonic effect is not present in this district with an overwhelmingly White (82.8%) population of students. However, this descriptive information should be considered with caution as it did not consider racial minority groups separately. This is especially true when considering the differential perception of safety noted among students in specific subgroups. Future studies may want to look at multiple groups using a MANOVA statistical analysis to determine differences between each group, instead of including all minority groups together in one large group.

5.0 IMPLICATIONS FOR POLICY AND PRACTICE

This research is descriptive in nature and has specific implications for the district of study. It also provides an opportunity to further research and understand effective school climate improvement efforts. Specifically, this study informs other districts that seek to improve school safety in a proactive manner by understanding student perceptions of emotional safety, physical safety and safety from bullying. This understanding will aid in the development of a comprehensive safety plan (*Practical Information on Crisis Planning*, 2007).

A key aspect of any successful school improvement process is the ability to be reflective. This chapter suggests implications for school leaders to reflect on school climate assessment data in order to establish meaningful, cooperative dialogue around students' perception of physical safety, emotional safety and safety from bullying. This chapter provides recommendations for school districts attempting to improve students' perception of safety using multiple measures of data and a systematic dialogue focused on school improvement. It also provides recommendations for policy considerations at the state level in order to support these efforts.

5.1 RECOMMENDATIONS FOR PRACTICE

The Every Student Succeeds Act requires states to incorporate at least one "other indicator" into their accountability systems. That indicator must be measured at the student

level so that data can be disaggregated to show trends among groups of students, like racial groups and English-language learners. The law lists a few examples of "other indicators," including school climate, but it gives states broad discretion about which, and how many, factors they select (Blad, 2017). The safety of school environments cannot be fully represented in school level data that reports incidents of aggression, violence and bullying behavior (Snell, 2005). School climate measures, which obtain students' perception of the safety of their environment, provide reliable information because when gauging the safety of a school environment, perception is reality. This descriptive study provides a model for an organization's initial efforts to collect and understand non-academic data regarding school climate and safety.

5.2 RECOMMENDATIONS FOR LOCAL POLICY

The process to integrate multiple measures and use the EDSCLS school climate data on safety in an actionable way can seem overwhelming, especially when considering all the competing priorities that school communities face. Schools are always struggling with limited resources and increasing demands. To best address a school's primary goals, it is important to find programs or strategies that address several at once. Findings from previous research and this analysis suggest that focusing on improvements in a school's climate can not only lead to a safer environment, but it can also lead to improved academic performance (Hammond, 2002a). Strategies to create a more positive climate include efforts to improve safety, discipline, and student engagement; build a sense of community among students and staff; and establish a shared vision, focused on student achievement among teachers, parents, and students (Thapa et al., 2013). Consequently,

an intentional focus on school climate should not be seen as an isolated measure but should instead be integrated with existing school improvement efforts as outlined in a school's strategic planning effort. In fact, a positive school climate is essential for any successful school reform (Perlman & Redding, 2011).

This research focused on an initial collection of school climate survey data in one district and was an initial attempt to measure non-academic indicators of the organization's success. The district chose to collect this data as a part of the district's comprehensive plan. The plan included a goal to "provide a safe and welcoming environment," and the EDSCLS school climate survey represented a starting point to gauge student perceptions of safety. Additionally, the district of study recognized both the racial imbalance of the district and the changing demographics of the student body and sought a proactive approach to create an organization responsive to the evolving needs of all students. While this study focused uniquely on safety data gathered from the EDSCLS school climate survey, the survey also included informative questions regarding related domains of student engagement and the school environment as these are related and interconnected (Bradshaw et al., 2014).

5.2.1 Putting data into practice

The district of study shared that the collection of school climate data is embedded into the goals of the district and is part of an ongoing effort by district leadership and building based teams to study the data and make recommendations for school improvement. The recommendations that follow may inform the process that the district has already put in place to use the information gathered in an actionable way.

First, the information collected in this survey should be integrated with other types of data to provide additional evidence about students' perception of safety in order to confirm the information gained through the data and draw conclusions to create school improvement plans. For example, the results of the survey data illustrate that students in the district of study perceive their overall safety (M=3.02, SD=.488) in the affirmative range (greater than 3.0 on a Likert scale with 1.0 indicating strong disagreement and 4.0 indicating strong agreement), indicating that students in the district of study reported an overall positive perception of safety. However, when considering the topic areas of emotional safety, physical safety and safety from bullying, physical safety was rated by students with a mean above three, indicating an affirmative response (M=3.26, SD=.518), but emotional safety (M=2.83, SD=.586) and safety from bullying (M=2.92, SD=.607) were rated by students as less than affirmative. This data does not imply that the district should take immediate action to implement programs to address emotional safety or safety from bullying, but rather prompt the district of study to consider additional data sources to understand the information collected in the climate survey more fully.

The district of study may also want to consider available administrative data, such as discipline data regarding specific behavioral incidents (e.g., bullying incidents) to determine the type of incident and rate at which these behaviors occur, because school safety is related to both the climate of the school and effectiveness of discipline policies (Hammond, 2002a). .Attendance data and truancy data that is aggregated by race, gender and grade level can also add to a broad understanding of student safety (May & Dunaway, 2000). The EDSCLS school climate data is quantitative and provides one indicator of students' perception of safety. The district may want to consider gathering qualitative data such as focus groups and interviews to

dig deeper into why students perceive their emotional safety and safety from bullying as less than affirmative.

Additionally, the district should evaluate interventions that are currently in place pertaining to emotional safety and safety from bullying to determine whether these interventions are working. The implementation and effectiveness of these safety interventions are also important considerations to determine what interventions pertaining to emotional safety should be continued or expanded to support students. It may be prudent to introduce new interventions pertaining to emotional safety and safety from bullying to support or complement what is already being done.

5.2.2 Looking deeper to guard against hegemony

An equitable school climate responds to the wide range of cultural norms, goals, values, interpersonal relationships, leadership practices, and organizational structures within the broader community. The district of study identified a concern with the racial imbalance of the district and the changing demographics of the student body. They sought a proactive approach to create an organization responsive to the evolving needs of all students. Chapter five reported findings on student characteristics of race, gender and grade level band in relation to students' perception of emotional safety, physical safety and safety from bullying. This deeper look at the differential perceptions of students in minority subgroups was especially important to the district of study due to the predominantly White population of students. Not surprisingly students who were White reported a stronger perception of safety than students in a minority subgroup (Perumean-Chaney & Sutton, 2013). As expected, the findings pointed to specific subgroups in the district that reported differential perceptions of physical safety, emotional safety and safety from

bullying. Students in minority racial groups reported comparatively low mean safety scores for each topic area. Specifically, Black female students in high school reported low mean scores in each topic area of physical safety, emotional safety and safety from bullying. High school students identifying as Hispanic or of two or more races reported lower safety scores when compared with the mean safety scores reported by all students in the district of study.

If this information is confirmed by additional data sources, it represents a starting point that compels the district to ask additional questions and compare data. For example, the district already reports information about school climate pursuant to the U.S. Department of Education's Civil Rights Data Collection (CRDC). This information reports discipline and attendance data by race, gender and grade level. If this data points to similar responses that are lower for specific subgroups (Black female high school students, Hispanic high school students, high school students belonging to two or more races) in comparison with the overall student population, the district should then consider interventions targeted to these specific subgroups of students.

The district may also seek to create a more equitable community through strategies, such as encouraging reflective practice to build cultural awareness in students and adults and increasing the understanding of diverse cultures. Culturally responsive education requires some knowledge of the specific cultures of the students and families in the school community. This knowledge must be part of the formal curriculum and not simply a recognition on special holidays (Villegas & Lucas, 2002). Students need to make textual connections to their own lives in fictional stories and the study of history. An inclusive formal curriculum gives students an opportunity to "see themselves" and establish a sense of belonging. In addition to the formal curriculum, the hidden curriculum of unconscious bias is also important. A staff of mostly White teachers impose a normative reference point of Euro-American cultural norms through

their classroom management, communication styles: student groupings, and praise toward students (Dary & Pickeral, 2013). The district may want to consider intentional efforts to learn about the cultures of minority subgroups of students both culturally and as individuals.

5.2.3 Sustaining the effort

School climate data that illustrates student perceptions of safety over time is compelling and prompts a school district to recognize areas of strength and areas that warrant additional consideration. The district of study selected the EDSCLS school climate survey as an annual measure to gauge the status of the district's goal to create a safe and welcoming environment. The district convened building level teams to study the data, integrate other data measures and plan for subsequent survey administrations. At the time of this study, the district was in the planning stages for the second administration of the survey and had not yet employed the data in an actionable way. The district used this initial data as a starting point in the improvement process of the district and employed a collaborative approach, rather than a knee-jerk reaction to this initial collection of quantitative school climate data. The district anticipates that subsequent administrations of the EDSCLS school climate survey will provide information to build a longitudinal view of trend data to gauge the district's progress in creating a safe and supportive environment for all students.

5.2.4 Share the information with stakeholders

In the first year of collecting school climate data, the district of study made the decision to share the data with school employees exclusively. The objective was to give staff an opportunity to

understand the measure, consider baseline results and interpret the data with other measures. However, in order to embed this improvement effort into the larger school community, the district of study will need to carefully consider what data will be released after the second administration of the survey. The district of study does plan to administer this survey on an annual basis and report the findings to the school community beginning this year and following the second administration of the survey. The district also plans robust communication using influential stakeholder groups, such as student athletic and extracurricular club endorsements, to promote both participation in the survey and investment in the results that are shared with the school community. The increased participation and transparent reporting of results support a sustainable effort to intentionally manage the school climate, especially as it relates to student safety. Conversely, if the data is hidden from stakeholders, they will lack an investment in the process and/or results and this will hinder the district's effort to gather robust data and make decision that are embraced by school stakeholders.

Alternately, the district should carefully consider a release of information that does not cause alarm or portray a district in crisis. While the school climate survey in this study identified a lower perception of safety from students who are Black females, Hispanic students and students belonging to two or more races, this did not pose a cause for alarm but rather a call for attention. If this baseline information was shared with the media, it is possible that this may have been portrayed as a call for alarm. This may impede the district's effort to reflect, gather qualitative information in the form of focus groups and bring the school community together to effect change. Consequently, transparency of results should be considered carefully so that the message illustrates information gathered from multiple measures and promotes a collaborative

approach for improvement by the school community. The focus should be to shine a light, rather than yield a hammer regarding the findings.

5.2.5 Engage stakeholders in the improvement process

In order to embed school climate data as an authentic measure of school success, stakeholders such as staff, students and parents must understand the importance that the district has placed on this improvement effort. The district of study should consider creating opportunities for students to participate in leadership and decision-making roles as a part of this effort in order to engage students in conversations about school climate. A school climate improvement committee that includes six to eight interested students in each school can help to gather meaningful input from other students and identify aspects of the school climate that are most pressing. Students in higher grades can be important role models for younger students. Families should also be included in the discussion of school climate. They offer a unique perspective in how their children view and interact with the school. It is important to engage family members in planning efforts to ensure their voices and opinions become part of the improvement plan.

5.3 RECOMMENDATIONS FOR STATE POLICY

Pennsylvania defines school climate as the quality and character of school life, and is based on patterns of students', parents' and school personnel's experience of school life ("PA School Climate Survey," 2017). In 2011, only twenty four states had a policy outlining school climate (Piscatelli & Lee, 2011). Currently, Pennsylvania refers to school climate in the PA Safe

Schools Act in 24 P.S. § 13-1301-A, et seq., but does not define it or identify it as a critical component of accountability and school improvement. Pennsylvania should use model policies enacted in other states to adopt comprehensive school climate standards that make the connection between bullying prevention/intervention programs, safety, student engagement, community engagement and a positive school climate. Ohio has a policy that may be worthy of consideration. It identifies specific components of a positive school climate and not only identifies the role of staff to foster a positive school climate, but also acknowledges the role of students and encourages districts to empower them in responsible roles (Piscatelli & Lee, 2011).

Pennsylvania currently offers a free school climate survey that is different from the EDSCLS school climate survey. The Pennsylvania survey is not accessible without an invitation code, which must be requested by district administrators. The EDSCLS, provided by the federal government is accessible online for anyone to review. Pennsylvania does not publish a theoretical model for the PA school climate survey and provides no statistical information demonstrating construct validity or reliability. The EDSCLS school climate survey includes a well-established theoretical model and provides substantial statistical information regarding the pilot study and subsequent confirmatory factor analysis demonstrating reliability. The EDSCLS climate survey site also includes a variety of tools to support interpretation of results and provides resources to guide action planning("School Climate Improvement Resource Package," 2017). Pennsylvania should consider removing the PA School Climate tool and instead direct schools and districts to use the EDSCLS school climate measurement tool and resource package.

Educational leaders in Pennsylvania are not systemically learning from one another about common barriers, solutions and best practices linked to school climate assessment and improvement efforts. In order to accomplish this, state leaders can create a network of model schools and districts that are committed to measuring and improving school climate to develop

"centers of excellence" that others can learn from to develop a growing 'bank' of case studies written by and/or with school leaders. Incentives, such as a recognition or award program for schools or districts that demonstrate exemplary school climate processes and progress towards improved school climate could support the development of this network.

5.4 STUDY LIMITATIONS

There are a number of limitations in this study which must be taken into account when considering the information reported. First, this study uses cross sectional data collected at one point in time, without regard to differences in student perceptions over time. Longitudinal data would be helpful to determine trends that prompt action. The data gathered for this study has not been compared against other measures to improve the accuracy of the information or to establish trend data. It does represent student perceptions at one point in time and provides a starting point for a school organization to establish a routine measurement of student perceptions of safety.

Additionally, this study is limited to the population of students enrolled in grades six through twelve in one suburban public school district. The demographics of students in the district at the time of the survey were 82.8% White, 14% Asian/Pacific Islander, 2.23% Black, 1.5% Hispanic and 2.8% identifying as two or more races. This overwhelming majority of White students in the district of study (82.8%) prompts a concern that survey results may be overestimated if students who elected to participate in the survey were not representative of the population of students. However, a strength of the study is that this population is similar to the overwhelming majority of White students in Pennsylvania at the time of this survey (67%) and also reflects the changing demographic of students in the United States as the enrollment of

White students is decreasing and the enrollment of Asian/ Pacific Islander students is increasing. The study sought to understand the needs of subgroups of students by race, gender and ethnicity in order to meet these needs of students of all races, genders and ethnicities. However, the conclusions from this study are descriptive in nature and cannot be considered generalizable to other school districts.

A final limitation of the study is the potential effect of researcher perspective. The researcher acknowledges that as an educational leader, the work will further expand my own professional understanding of the topic but also includes the potential to bias the researcher's perspective based on experiences that have influenced my career.

5.5 RECOMMENDATIONS FOR FUTURE STUDY

This study focused solely on student perceptions of safety at school. This study did not include the perceptions of safety by other respondent groups equally invested in a safe school environment. These respondent groups are instructional staff, non-instructional staff or parents and the EDSCLS suite of surveys includes surveys geared to these three additional respondent groups. Future research focused on safety at school should include the perspectives of additional respondent groups to build a comprehensive report of all stakeholders in the school community.

Additionally, this study focused on a subset of the data provided by the EDSCLS school climate survey. Future research on safety at school can expand beyond the domain of safety explored in this study to include the related domains of engagement and the environment. An analysis that seeks to make connections between these domains can provide robust information to inform school improvement efforts.

This effort represents an initial effort to understand differential perceptions of safety based on race, gender and grade level. The study did not differentiate between students who identify as a gender different from their biological gender. Further analysis of the effect of student characteristic of gender should consider the safety of transgender students, as they may be likely to experience harassment and lack emotional safety (Attar-Schwartz, 2009).

Future studies should examine the quantitative data with additional qualitative information from specific minority subgroups to guard against a hegemonic effect and subconscious bias in the organization. When robust information is gathered with consistency over time, analyzed with thoughtfulness and reported with transparency, an organization has a valuable opportunity to manage the climate intentionally to ensure a safe and supportive environment for all students.

APPENDIX A

ED SCHOOL CLIMATE SURVEYS STUDENT SURVEY

U.S. Department of Education National Center for Education Statistics

Source: U.S. Department of Education, Office of Safe and Healthy Students, *ED School Climate Surveys (EDSCLS)*, Washington DC, 2016.

1. Are you male or female? Mark one response. (Used in this research study - Sdemo148)

   Male
   Female

2. What grade are you currently in at this school? Mark one response. (Used in this research study- Sdemo151)

   5th grade
   6th grade
   7th grade
   8th grade
   9th grade
   10th grade
   11th grade
   12th grade
   Not graded

3. Which of the following grade groupings best describes the grade that you are currently in? Mark one response. (Used in this research study-Sdemo151b)

   5th to 8th grade
   9th to 12th grade

4. Are you of Hispanic or Latino origin? Mark one response. (Used in this research study-Sdemo149)

   Yes
   No

5. What is your race? You may mark one or more races.(Used in this research study-Sdemo150)

   White
   Black or African-American
   Asian
   American Indian or Alaska Native
   Native Hawaiian or Pacific Islander

How strongly do you agree or disagree with the following statements about this school? Mark One Response

6. All students are treated the same, regardless of whether their parents are rich or poor. (Not used)

   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

7. Boys and girls are treated equally well. (Not used)

   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

Throughout the survey, "This school" means activities happening in school buildings, on school grounds, on school buses, and at places that hold school-sponsored events or activities. Unless otherwise specified, this refers to normal school hours or to times when school activities/events were in session.

8. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultual background, ethnicity, and identity. (Not used)

   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

9. Adults working at this school treat all students respectfully. (Not used)

   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

10. People of different cultural backgrounds, races, or ethnicities get along well at this school.(Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

11. Teachers understand my problems (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

12. Teachers are available when I need to talk with them. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

13. It is easy to talk with teachers at this school. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

14. My teachers care about me. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

15. **[High School Student Only]** At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

16. My teachers make me feel good about myself. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

17. Students respect one another. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

18. Students like one another. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

19. If I am absent, there is a teacher or some other adult at school that will notice my absence. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

20. I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

21. I regularly participate in extra-curricular activities offered through this school, such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

22. At this school, students have lots of chances to help decide things like class activities and rules. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

23. There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

24. I have lots of chances to be part of class discussions or activities. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

25. I feel like I belong. (Used-Ssafemo18)

Strongly Agree
Agree
Disagree
Strongly Disagree

26. Students at this school get along well with each other. (Used-Ssafemo49)

Strongly Agree
Agree
Disagree
Strongly Disagree

27. At this school, students talk about the importance of understanding their own feelings and the feelings of others. (Used-Ssafemo52)

Strongly Agree
Agree
Disagree
Strongly Disagree

28. At this school, students work on listening to others to understand what they are trying to say. (Used-Ssafemo53)

Strongly Agree
Agree
Disagree
Strongly Disagree

29. I am happy to be at this school. (Used-Ssafemo54)

Strongly Agree
Agree
Disagree
Strongly Disagree

30

How strongly do you agree or disagree with the following statements about this school? Mark One Response

31 I feel like I am part of this school. (Used-Ssafemo56)

Strongly Agree
Agree
Disagree
Strongly DisagreeI feel socially accepted. (Used-Ssafemo57)
Strongly Agree
Agree
Disagree
Strongly Disagree

31. I feel safe at this school. (Used-Ssafpsaf59)

Strongly Agree
Agree
Disagree
Strongly Disagree

32. I feel safe going to and from this school. (Used- Ssafpsaf60)

Strongly Agree
Agree
Disagree
Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

33. I sometimes stay home because I don't feel safe at this school. (Used- Ssafpsaf63)

Strongly Agree
Agree
Disagree
Strongly Disagree

34. Students at this school carry guns or knives to school. (Used- Ssafpsaf65)

Strongly Agree
Agree
Disagree
Strongly Disagree

35. Students at this school threaten to hurt other students. (Used- Ssafpsaf67)

Strongly Agree
Agree
Disagree
Strongly Disagree

36. Students at this school steal money, electronics, or other valuable things while at school. (Used- Ssafpsaf68)

Strongly Agree
Agree
Disagree
Strongly Disagree

37. Students at this school damage or destroy other students' property. (Used- Ssafpsaf69)

Strongly Agree
Agree
Disagree
Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

38. Students at this school fight a lot. (Used- Ssafpsaf71)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

39. Students at this school are teased or picked on about their race or ethnicity. (Used- Ssafbul74)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

40. Students at this school are teased or picked on about their cultural background or religion. (Used-Ssafbul75)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

41. Students at this school are teased or picked on about their physical or mental disability. (Used-Ssafbul76)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

42. **High School Student Only]** Students at this school are teased or picked on about their real or perceived sexual orientation. (Used-Ssafbul77b)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school?
Mark One Response

This question is about bullying. Bullying happens when one or more students tease, threaten, spread rumors about, hit, shove or hurt another student. It is not bullying when students of about the same strength or power argue or fight or tease each other in a friendly way. Bullies are usually stronger, or have more friends or more money, or some other power over the student being bullied. Usually, bullying happens over and over, or the student being bullied thinks it might happen over and over.

43. Students at this school are often bullied. (Used- Ssafbul73)
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

44. Students at this school try to stop bullying. (Used- Ssafbul80)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

This question is about cyberbullying. Cyberbullying is bullying that takes place using electronic technology. Examples of cyberbullying include mean text messages or emails, rumors sent by email or posted on social networking sites, and embarrassing pictures, videos, websites, or fake profiles.

45. Students often spread mean rumors or lies about others at this school on the internet (.e., Facebook™, email, and instant message).(Used- Ssafbul83)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

Drugs means any substance, including those used to get "high" or increase performance in school or sports, other than alcohol or tobacco. Examples include marijuana, illegal drugs, inhalants, synthetic drugs used to get high (K-2, bath salts, white lightning), or over-the-counter medicine. This does not include medications prescribed by doctor or nurse for the person, but includes prescription drugs that are NOT prescribed to the person by his/her doctor.
"Alcohol" means a full or part of a drink of alcohol. Examples include beer, wine, mixed drink, shot of liquor, or any combination of these alcoholic drinks. This does not include alcohol that you may drink for religious purposes.

46. Students use/try alcohol or drugs while at school or school-sponsored events. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

47. It is easy for students to use/try alcohol or drugs at school or school-sponsored events without getting caught. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

48. Students at this school think it is okay to smoke one or more packs of cigarettes a day. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

49. Students at this school think it is okay to get drunk. (Not used)

    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

50. Students at this school think it is okay to try drugs. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

51. Students know what to do if there is an emergency, natural disaster (tornado, flood) or a dangerous situation (e.g. violent person on campus) during the school day. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

52. If students hear about a threat to school or student safety, they would report it to someone in authority. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

53. The bathrooms in this school are clean. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

54. The temperature in this school is comfortable all year round. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

55. The school grounds are kept clean. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

56. I think that students are proud of how this school looks on the outside. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

57. Broken things at this school get fixed quickly. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

58. My teachers praise me when I work hard in school. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

59. My teachers give me individual attention when I need it. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

60. My teachers often connect what I am learning to life outside the classroom. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

61. The things I'm learning in school are important to me. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

62. My teachers expect me to do my best all the time. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

63. My teachers really care about me.(Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

64. I can talk to my teachers about problems I am having in class. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

65. I can talk to a teacher or other adult at this school about something that is bothering me. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

66. Students at this school stop and think before doing anything when they get angry.(Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

67. Students at this school try to work out their disagreements with other students by talking to them. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

How strongly do you agree or disagree with the following statements about this school? Mark One Response

68. My teachers make it clear to me when I have misbehaved in class. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

69. Adults working at this school reward students for positive behavior. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

70. Adults working at this school help students develop strategies to understand and control their feelings and actions. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

71. School rules are applied equally to all students. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

72. Discipline is fair. (Not used)

Strongly Agree
Agree
Disagree
Strongly Disagree

U.S. Department of Education, Office of Safe and Healthy Students, *Technical and Administration User Guide for the ED School Climate Surveys (EDSCLS)*, Washington DC, 2016.

APPENDIX B

CHART LINKING SURVEY ITEMS TO RESEARCH QUESTIONS

Table 19: Research question 1 summary chart

RQ1	Literature Alignment	Summary Results	Statistical Interpretation
• Descriptive statistics • Frequency distribution of survey items. • Mean and standard deviation for each safety topic area: ➢ Emotional safety (7 Q) ➢ Physical safety (8 Q) ➢ Safety from bullying (7 Q) ➢ Overall safety (22 Q)	Securitization vs. focus on preventive measures (Kupchik et al., 2015) School climate and safety (Esquith, D. Osher, 2013b) Importance of School climate measurement (Osher & Boccanfuso, 2012) School Connectedness (Connell et al., 2015)	**GENDER** - In each safety topic area, males reported a greater perception of safety than females. **GRADE LEVEL BAND**- In each safety topic area, middle school students reported a greater perception of safety than high school students. **Emotional safety (Appendix J, K)** ➢ 70% reported a positive perception of emotional safety **Physical Safety (Appendix L,M)** ➢ 85% reported a positive perception of physical safety **Safety from bullying (Appendix N,O)** ➢ 66% reported a positive perception of safety from bullying	Consider combining these findings with other data to confirm information • Consider effectiveness of current programs in place to support students of minority racial groups and promote culturally responsive practices • Review longitudinal data to see if trends exist

CHART LINKING SURVEY ITEMS TO RESEARCH QUESTIONS

Table 20: Research question 2 summary chart

RQ2	Literature Alignment	Summary Results	Statistical Implications
Multiple regression to predict a continuous dependent variable (physical safety) based on multiple independent variables of race, gender and grade level band.	(Goldstein et al., 2008) (Bradshaw et al., 2014) (Hammond, 2002b) (May & Dunaway, 2000) (Amrit Thapa et al., 2013)	Regression model resulted in a statistically significant better prediction of the dependent variable of physical safety. However, the effect size (6.1%) was minimal and produced no interesting results to explain an association between race, gender and grade level and physical safety.	An association exists with a minimal prediction of the dependent variable of physical safety. The differences in students' perception of safety as noted in the results of Research Question 1, prompt further study of the perception of safety of students of different races, genders and grade level to determine how the district can better meet their needs and promote an environment that they perceive as both safe and supportive

Table 21: Research question 3 summary chart

RQ3	Literature Alignment	Summary Results	Statistical Implications
Multiple regression to predict a continuous dependent variable (emotional safety) based on multiple independent variables of race, gender and grade level band.	Importance of School climate measurement (Osher & Boccanfuso, 2012) School Connectedness (Connell et al., 2015) School climate and connectedness (Wilson, 2004),(Zusho et al., 2016)	Regression model resulted in a statistically significant better prediction of the dependent variable of emotional safety. The effect size (3.2%) produced no interesting results to explain an association between race, gender and grade level and emotional safety.	Compare emotional safety data with information on students' perception of school connectedness. This may provide actionable information for the district to consider targeted programs to better meet the needs of these students.

CHART LINKING SURVEY ITEMS TO RESEARCH QUESTIONS

Table 22: Research question 4 summary

RQ 4	Literature Alignment	Summary Results	Statistical Implications
Multiple regression to predict a continuous dependent variable (safety from bullying) based on multiple independent variables of race, gender and grade level band.	(Guerra et al., 2011) (Gregory et al., 2010) (Ronet Bachman, Gunter, & Bakken, 2011) (J. G. Kosciw et al., 2009)	Regression model resulted in a statistically significant better prediction of the dependent variable of safety from bullying. However, the effect size (6.1%) was minimal and produced no interesting results to explain an association between race, gender and grade level and safety from bullying.	Recognizing that students reported a prevalence of cyber bullying, the district may want to consider a universal program to promote digital citizenship or a program to promote social emotional competency will communicating electronically.

Table 23: Research question 5 summary chart

Data Analysis	Literature Alignment	Summary Results	Statistical Implications
Independent t test on the continuous dependent variable of overall safety used to determine if a significant difference exists between the two categorical groups of students in the majority racial subgroup (White) and students not in the majority racial subgroup (all other racial subgroups)	(Lacoe, 2015) (Jackson, 2015) (Zusho et al., 2016) (Smedley, 1998) (Perlman, 2015) (Amrit Thapa et al., 2013)	No difference between the perception of safety of students in the racial group representing the majority (White) students in a minority racial group (Non-white) Mann-Whitney non parametric alternative test used. Test not significant, $p>.05$, null hypothesis could not be rejected, indicating that perception of safety not different between groups	No statistically significant difference in the perception of safety between these two groups found Considering that findings of RQ 1 identified different perceptions of safety among students in various subgroups consistently reporting a comparatively lower perception of safety. Consider an analysis of differences between specific subgroups to determine if these are statistically significantly different.

APPENDIX C

OPPORTUNITY TO OPT OUT OF SURVEY PARTICIPATION

Dear Parent/Guardian:

The [NAME OF DISTRICT] strives to be a premier school district that inspires excellence in academics, athletics, arts, and activities for every student every day. We are proud that our students consistently earn exemplary scores on National and State academic measures, such as the PSSA, Keystone exams, SAT, ACT and AP exams. These measures are one indicator of excellence, but they do not provide an indication of the value that our District places on a safe and supportive school environment. We recognize that students' experiences on a daily basis are vital to their academic, social and emotional growth. In order to get a pulse on this aspect of our educational program, our District is conducting a voluntary survey about school climate. School climate is a measure of the patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships and the teaching and learning practices of a school. The survey will be administered to students in grades 6-12 during regular school hours according to the following schedule: Students in Grades 9-12 (April 11, 2016 - April 25, 2016), Students in Grades 6 – 8 (April 25, 2016 - May 6, 2016). Students in Grades K-5 will not take the survey.

In addition to the student survey, you will receive another email asking you to participate in a survey of the same topic areas. The survey that you are asked to complete will take approximately 20 minutes of your time. We value your feedback and ask that you complete the survey when you receive the randomly generated username sent to you via email. The survey administration window for you will also be available during the period April 18 - April 22. Please watch for this email inviting you to participate in the survey. Please note that if you have children in multiple buildings, you will receive one survey for *each* school. We ask that you complete the survey with your responses considering your experience with each school. This is important because each school has unique strengths and areas for growth. We would like to include your input for each building. However, if you choose to respond for only one building, we ask that you respond to the survey for your **youngest child**.

Even though elementary students will not be taking the survey, we still want to gather data on the school climate in our elementary buildings. We ask that you take the survey sharing your perceptions of your child's experience. We will combine the feedback that you provide with the survey feedback gathered through a survey of the elementary staff to gain an understanding of our strengths and areas for school improvement. Please take time to complete the survey. Your input is essential to our growth.

The student survey given to children in grades 6 through 12 will ask about their perception on topics such as student engagement, school environment, and school safety. The data that both you and your child provide will be used by the school and district to better understand the current climate in their school. All respondent answers are anonymous and will be combined with the answers of other students and parents of the school and in our District. The results will help to guide our school and District efforts moving forward. These reports will not identify any person or their responses. If you do not want your child to participate in this

survey, please notify your school principal by April 11, 2016. If you have any questions about this school climate survey or about your child's participation or would like to see a copy of the student survey, please contact your child's principal. If you agree to allow your child to take the survey, you do not have to sign or send back anything.

Sincerely,

[NAME OF DISTRICT]

APPENDIX D

PROCTOR SCRIPT FOR SURVEY ADMINISTRATION

Thank you for proctoring this school climate survey. As you learned in the staff meeting earlier this month, our district is collecting information through a voluntary survey on the climate in our schools. We recognize the importance of a safe and supportive school environment. Students' experiences on a daily basis are vital to their academic, social and emotional growth. School climate is a measure of the patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships and the teaching and learning practices of a school. We appreciate that you are willing to proctor this survey. Please read the following script to students before they log into the site.

PROCTOR SCRIPT:

School climate is a measure of the patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships and the teaching and learning practices of a school. Good morning/afternoon. You're here because our District wants to conduct a survey to hear your opinions about your school. The survey will ask your opinion on questions ranging from student engagement, to bullying, to the conditions of the school building itself. Your answers will be used to improve the school experience for you, your fellow students, and your

teachers. Your teachers, and all staff will also have the chance to voice their opinions on similar surveys. Even your parents will receive a survey and the chance to have their say. Our District wants to hear from everyone, so your participation is very important. But it's also voluntary. You do not have to take the survey and you can skip any question you don't want to answer.

Please answer the questions as best you can. If you are unsure about the meaning of a survey question, do your best to answer it on your own. When you have finished the survey, please sit quietly and do not disturb your fellow students. Let's get started. You have received a username in your school Gmail account. This username is how you will access the survey. The survey will not be linked to your student data. After the username was emailed to you, the username file was de-identified and is no longer associated with your Gmail address. When you complete the survey, the information that you provide will give our district feedback from the student body as a whole, but not from individual students. In order to begin, open your Gmail account through Google Chrome. I will now show you the steps to sign in to your Gmail account and log into the survey. When you log into Gmail, you will find an email from school district. This email will contain a link to the survey site. It will also include a username that has been randomly generated for you to access the survey. You may begin the survey at this time.

APPENDIX E

INFORMED CONSENT PRESENTED ON LOG IN SCREEN

What is this survey about?

The ED School Climate Survey asks questions about how connected you are to your school, about other students in your school, and about school staff. The survey is also being given to other students like you. This is not a test. There are no wrong answers. The survey should take about 30 minutes to complete.

Do you have to take the survey?

This survey is voluntary. If you or your parents don't want you to take this survey, you can let your school know and you don't have to take the survey. You do not have to answer any questions you do not want to answer, and you can stop taking the survey at any time. We hope you will do your best to answer as many questions as you can. Please be honest when answering each question.

Who will see your answers?

The information that you provide will not identify you as an individual. Your answers will be combined with the answers of other students will be viewed ***collectively*** by school staff in order to improve our school.

Who should you ask if you have any questions?

If you have questions you can ask your teacher or other adults at your school.

If you understand this information and are willing to take this survey, please select "Yes, I am ready to begin". If you are not willing to take the survey, please select "No I do not want to participate."

APPENDIX F

QUESTION STEMS FOR SAFETY DOMAIN

Table 24: Question stems

Variable name	Description
Emotional Safety	7 items
SSAFEMO18	I feel like I belong (#25)
SSAFEMO49	Students at this school get along well with each other (#26)
SSAFEMO52	At this school, students talk about the importance of understanding their own feelings and the feelings of others (#27)
SSAFEMO53	At this school, students work on listening to others to understand what they are trying to say (#28)
SSAFEMO54	I am happy to be at this school (#29)
SSAFEMO56	I feel like I am part of this school (#30)
SSAFEMO57	I feel socially accepted (#31)
Physical Safety	8 items
SSAFPSAF59	I feel safe at this school (#32)
SSAFPSAF60	I feel safe going to and from this school (#33)
SSAFPSAF63	I sometimes stay home because I don't feel safe at this school (#34)
SSAFPSAF65	Students at this school carry guns or knives to school (#35)
SSAFPSAF67	Students at this school threaten to hurt other students (#36)
SSAFPSAF68	Students at this school steal money, electronics, or other valuable things while at school (#37)
SSAFPSAF69	Students at this school damage or destroy other students' property (#38)
SSAFPSAF71	Students at this school fight a lot (#39)
Safety from Bullying	7 items
SSAFBUL74	Students at this school are teased or picked on about their race or ethnicity (#40)
SSAFBUL75	Students at this school are teased or picked on about their cultural background or religion (#41)
SSAFBUL76	Students at this school are teased or picked on about their physical or mental disability (#42)
SSAFBUL77B	Students at this school are teased or picked on about their real or perceived sexual orientation. (High School Only) (#43)
SSAFBUL73	Students at this school are often bullied (#44)
SSAFBUL80	Students at this school try to stop bullying (#45)
SSAFBUL83	Students often spread mean rumors or lies about others at this school on the internet (i.e., Facebook™, email, and instant message) (#46)

Source: (*National Center for Education Statistics ED School Climate Surveys (EDSCLS) Appendix D*, 2015)

APPENDIX G

EDSCLS CODEBOOK

Table 25: EDSCLS codebook

Domain	Topic	Item
Engagement (ENG)		19 items SENG
	Cultural and linguistic competence (CLC)	5 items SENGCLC
	Relationships (REL)	9 items SENGREL
	School participation (PAR)	5 items SENGPAR
Safety (SAF)		29 items SAF
	Emotional safety (EMO)	7 items SSAFEMO
	Physical safety (PSAF)	8 items SSAFPSAF
	Bullying/cyberbullying (BUL)	7 items SSAFBUL
	Substance abuse (SUB)	5 items SSAFSUB
	Emergency readiness/management (ERM)	2 items SSAFERM
Environment (ENV)		20 items ENV
	Physical environment (PENV)	5 items ENVPENV
	Instructional environment (INS)	5 items SENVINS
	Mental health (MEN)	5 items SENVMEN
	Discipline (DIS)	5 items SENVDIS

Source: (*National Center for Education Statistics ED School Climate Surveys (EDSCLS) Appendix D*, 2015)

APPENDIX H

STUDENT PARTICIPATION RATE IN EDSCLS SURVEY

Table 26: Participation Rate

Students		# students	Enrollment	% of Total
Invited to participate	Students in Grades 6-12	4,649	4,649	100
Chose to opt out	Students in Grades 6-8	191	1,974	9.7
Chose to opt out	Students in Grades 9-12	639	2,675	23.9
Chose to opt out	Students in Grades 6-12	830	4,649	17.9
Total responding	Students in Grades 6-8	1,783	1,974	90.3
Total respondents	Students in Grades 9-12	2,036	2,675	76.1
Total respondents	Students in Grades 6-12	3,819	4,649	82.1

Note: This participation rate does not include surveys excluded due to incomplete information.

APPENDIX I

DEMOGRAPHIC CHARACTERISTICS OF STUDENTS ENROLLED IN DISTRICT

Table 27: Demographic data of district of study

Student Characteristic	Enrollment (6-12)	%
Gender		
Male	2410	48.3
Female	2249	51.7
Grade		
6	701	14.9
7	633	13.5
8	644	13.7
9	698	14.6
10	659	14.9
11	667	14.2
12	691	14.7
Race/ethnicity (student population k-12, n=8		
White	6,770	82.8
Black/African- American	149	1.82
Hispanic	48	.59
Asian American	1133	13.86

SOURCE: PENNDATA (2105)

APPEDNIX J

DESCRIPTIVE STATISTICS-EMOTIONAL SAFETY

Table 28: Emotional safety descriptive statistics

Question Stem	N	Mean	SD	% SD	% D	%TD	% A	% SA	%TA	% Missing
I feel like I belong. #25	3,691	2.98	0.794	6	13.9	19.9	54.8	24.4	**79.2+**	0.8
Students at this school get along well with each other #26	3,686	2.82	0.704	5.5	19.1	24.6	63	11.6	**74.6+**	0.9
At this school, students talk about the importance of understanding their own feelings and the feelings of others. #27	3,681	2.3	0.835	17.4	41.5	58.9	33.4	6.7	**40.1+**	1.1
At this school, students work on listening to others to understand what they are trying to say #28	3,676	2.5	0.774	10.5	34.9	45.4	46.6	6.8	**53.4+**	1.2
I am happy to be at this school. #29	3,693	3.11	0.84	6.6	10.2	16.8	48	34.4	**82.4+**	0.8
I feel like I am part of this school. #30	3,690	3.05	0.76	4.6	12.4	17	55.4	26.7	**82.1+**	0.8
I feel socially accepted #31	3,688	3.01	0.776	5.1	13.8	18.9	54.8	25.4	**80.2+**	0.9
TOTAL % indicating a positive perception of emotional safety	70.29									

APPENDIX K

DESCRIPTIVE STATISTICS EMOTIONAL SAFETY SUBGROUPS

Table 29: Emotional safety descriptive statistics by subgroup

Race	Gender	N	M	SD	Race	Gender	N	M	SD
Middle School Students					High School Students				
White	Male	666	2.97	0.588	White	Male	847	2.85	0.550
	Female	651	2.85	0.595		Female	719	2.65	0.547
Black	Male	26	2.68	0.693	Black	Male	19	2.70	0.513
	Female	14	2.84	0.542		Female	18	2.33	0.485
Asian	Male	93	2.87	0.544	Asian	Male	83	2.97	0.514
	Female	105	2.96	0.595		Female	119	2.73	0.539
Am_Indian	Male	15	3.36	0.404	Am. Indian	Male	4	2.79	0.416
	Female	6	3.24	0.555		Female	7	2.88	0.416
Two or more	Male	38	2.75	0.648	Two or more races	Male	45	2.59	0.786
races	Female	39	2.69	0.672		Female	27	2.58	0.711
Hispanic	Male	53	2.95	0.577	Hispanic	Male	44	2.67	0.633
	Female	31	2.78	0.643		Female	28	2.59	0.561

APPENDIX L

DESCRIPTIVE STATISTICS - PHYSICAL SAFETY

Table 30: Physical safety descriptive statistics

Question Stem	N	Mean	SD	% SD	% D	%TD	% A	% SA	%TA	% Missing
I feel safe at this school.	3,692	3.28	0.689	2.8	5.3	8.10	52.7	38.5	**91.20+**	0.8
I feel safe going to and from this school	3,704	3.33	0.651	2	4.1	6.10	52.5	41	**93.50+**	0.5
I sometimes stay home because I don't feel safe at this school	3,701	3.61	0.662	68.7	25.1	**93.80+**	3.5	2.1	5.60	0.5
Students at this school carry guns or knives to school.	3,700	3.64	0.641	70.9	23	**93.90+**	3.8	1.7	5.50	0.6
Students at this school threaten to hurt other students	3,686	3.04	0.839	32.6	42.6	**75.20+**	19.4	4.5	23.90	0.9
Students at this school steal money, electronics, or other valuable things while at school.	3,688	3.06	0.839	33.5	42.7	**76.20+**	18.3	4.6	22.90	0.9
Students at this school damage or destroy other students' property	3,691	2.97	0.818	27.1	46.1	**73.20+**	21.6	4.5	26.10	0.8
Students at this school fight a lot.	3,689	3.12	0.762	32.3	50	**82.30+**	13.4	3.3	16.70	0.9
TOTAL % indicating a positive perception of physical safety	84.91	(indicated by a + sign)								

APPENDIX M

DESCRIPTIVE STATISTICS: PHYSICAL SAFETY BY SUBGROUPS

Table 31: Physical safety descriptive statistics by subgroup

RACEETH	Gender	N	M	SD	Gender	N	M	SD
	Middle School Students				High School Students			
White	Male	669	3.41	0.501	Male	847	3.16	0.501
	Female	651	3.39	0.484	Female	716	3.11	0.471
Black	Male	25	3.17	0.625	Male	18	3.09	0.481
	Female	14	3.57	0.453	Female	18	2.95	0.425
Asian	Male	94	3.37	0.510	Male	82	3.30	0.499
	Female	107	3.45	0.548	Female	119	3.21	0.442
Am.Indian	Male	15	3.63	0.303	Male	4	3.19	0.484
	Female	6	3.69	0.498	Female	7	3..32	0.345
Two or more races	Male	38	3.12	0.649	Male	45	3.01	0.749
	Female	39	3.33	0.441	Female	27	3.06	0.584
Hispanic	Male	54	3.27	0.569	Male	44	2.97	0.642
	Female	31	3.36	0.443	Female	28	3.14	0.593

APPENDIX N

DESCRIPTIVE STATISTICS- SAFETY FROM BULLYING

Table 32: Safety from bullying descriptive statistics

Question Stem	N	Mean	SD	% SD	% D	%TD	% A	% SA	%TA	% Missing
Students at this school are teased or picked on about their race or ethnicity	3,684	3.11	0.829	35.1	44	**79.10+**	15.2	4.7	19.90	1
Students at this school are teased or picked on about their cultural background or religion.	3,674	3.14	0.81	36.2	44.4	**80.60+**	14	4.1	18.10	1.3
Students at this school are teased or picked on about their physical or mental disability	3,676	3.07	0.883	36.2	39.3	**75.50+**	17.3	6	23.30	1.2
Students at this school are teased or picked on about their real or perceived sexual orientation (high school only)	1,933	2.77	0.869	10.4	24.1	**34.50+**	12.8	4.6	17.40	1
Students at this school are often bullied.	3,682	2.92	0.781	21	54.7	**75.70+**	17.7	5.6	23.30	1
Students at this school try to stop bullying.	3,669	2.72	0.786	6.8	27.7	34.50	50.4	13.7	**64.10+**	1.4
Students often spread mean rumors or lies about others at this school on the internet	3,630	2.55	0.927	15	38.7	**53.70+**	29.1	14.8	43.90	2.4
TOTAL % indicating a positive perception of safety from bullying	66.17	(indicated by a + sign)								

APPENDIX O

DESCRIPTIVE STATISTICS – SAFETY FROM BULLYING SUBGROUPS

Table 33: Safety from bullying descriptive statistics by subgroup

RACEETH	Gender	N	M	SD	Gender	N	M	SD
			Middle School Students			High School Students		
White	Male	666	3.14	0.600	Male	845	2.86	0.570
	Female	652	3.04	0.596	Female	717	2.73	0.530
Black	Male	25	2.89	0.701	Male	17	2.85	0.457
	Female	13	3.01	0.493	Female	18	2.63	0.490
Asian	Male	94	2.96	0.650	Male	82	2.85	0.595
	Female	106	3.10	0.662	Female	120	2.73	0.564
Am. Indian	Male	15	3.21	0.550	Male	4	2.39	0.457
	Female	6	3.39	0.634	Female	7	2.94	0.480
Two or more	Male	37	2.80	0.697	Male	45	2.70	0.746
	Female	39	2.76	0.658	Female	25	2.66	0.627
Hispanic	Male	54	3.05	0.695	Male	44	2.69	0.660
	Female	30	2.95	0.711	Female	26	2.70	0.563

APPENDIX P

DESCRIPTIVE STATISTICS – OVERALL PERCEPTION OF SAFETY BY RACE/ETHNICITY AND GRADE BAND

Table 34: Overall safety descriptive statistics

Race/Ethnicity	Grade Level Band	N	M	SD
White	Middle School	1315	3.15	.481
	High School	1555	2.91	.447
Black	Middle School	38	3.01	.514
	High School	35	2.77	.384
Asian	Middle School	200	3.14	.513
	High School	200	2.97	.450
Am. Indian	Middle School	21	3.43	.348
	High School	11	2.97	.347
Two or more races	Middle School	76	2.93	.524
	High School	69	2.79	.637
Hispanic	Middle School	84	3.08	.514
	High School	72	2.80	.536

APPENDIX Q

DESCRIPTIVE STATISTICS- OVERALL PERCEPTION OF SAFETY BY SUBGROUPS

Table 35: Overall safety descriptive statistics by subgroup

Race/Ethnicity	Gender	N	M	SD	Gender	N	M	SD
	Middle School Students					High School Students		
White	Male	666	3.19	.488	Male	840	2.97	.452
	Female	649	3.11	.470	Female	715	2.84	.432
Black	Male	25	2.92	.542	Male	17	2.90	.329
	Female	13	3.17	.429	Female	18	2.65	.402
Asian	Male	94	3.09	.471	Male	82	3.05	.446
	Female	106	3.19	.546	Female	118	2.91	.444
Am. Indian	Male	15	3.42	.264	Male	4	2.81	.376
	Female	6	3.46	.538	Female	7	3.06	.321
Two or more	Male	37	2.91	.548	Male	45	2.77	.689
races	Female	39	2.95	.507	Female	24	2.81	.539
Hispanic	Male	54	3.10	.517	Male	44	2.79	.572
	Female	30	3.06	.517	Female	28	2.82	.483

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